

SOVIET PHYSICS JETP

U. I. C. C.

OCT 28 1974

LIBRARY

Volume 36

January–June 1973

Index

a translation of ЖУРНАЛ ЭКСПЕРИМЕНТАЛЬНОЙ И ТЕОРЕТИЧЕСКОЙ ФИЗИКИ

Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki

(Journal of Experimental and Theoretical Physics), Vol. 63, July–December 1972

published by the American Institute of Physics

SOVIET PHYSICS JETP

GOVERNING BOARD

H. Richard Crane, *Chairman*
H. William Koch, *ex officio*
George B. Benedek
Robert T. Beyer
Joseph A. Burton
Irving E. Dayton
F.R. Eirich
Michael Ference, Jr.
Kenneth W. Ford
Joseph L. Fowler
Laurence W. Fredrick
James B. Gerhart
S.A. Goudsmit
W.W. Havens, Jr.
Gerald Holton
Robert E. Hopkins
G.A. Jeffrey
John C. Johnson
Wilbur V. Johnson
E. Leonard Jossem
Robert P. Kraft
J.A. Krumhansl
John S. Laughlin
A.I. Mahan
Sidney Millman
Jarus W. Quinn
J. Sandweiss
Martin Schwarzschild
Frederick Seitz
F. Dow Smith
A.A. Strassenburg
Wallace Waterfall

GENERAL ADMINISTRATION

H. William Koch
Director
Wallace Waterfall
Secretary
Gerald F. Gilbert
Treasurer
Lewis Slack
Associate Director, General Activities
Robert H. Marks
Associate Director, Publishing and Information

DIRECTORS OF PROFESSIONAL DIVISIONS

A.W.K. Metzner
Publications
Harold L. Davis
Physics Today
Arthur Herschman
Information Services
Lewis Slack
Public Information
Dion W.J. Shea
Education
Raymond W. Sears
Manpower
Charles Weiner
Physics History

PUBLISHING SERVICES

Theodore Metaxas
Manager,
Brookhaven Publishing Operation
Edward P. Greeley
Advertising Manager
Mitchell Koch
Managing Editor
John Di Caro
Fulfillment Manager

American Institute of Physics Translations Advisory Board:

Robert T. Beyer, *Chairman*
J. George Adashko
Freeman Dyson
Dwight Gray

Morton Hamermesh
David Harker
Howard A. Robinson

Editor of *Soviet Physics—JETP*:

J. George Adashko, 25 West 81st Street, New York, New York 10024

Soviet Physics—JETP, a translation of **ЖУРНАЛ ЭКСПЕРИМЕНТАЛЬНОЙ И ТЕОРЕТИЧЕСКОЙ ФИЗИКИ**, *Zhurnal Ekspериментальной и Теоретической Физики*, is a monthly journal published by the American Institute of Physics and contains a complete translation of the *Journal of Experimental and Theoretical Physics* of the Academy of Sciences of the USSR (editorial address: Vorob'evskoe Shosse 2, Moscow V-334, USSR). Volume 1 of *Soviet Physics—JETP* corresponds to Russian Vol. 28 (1955). Two volumes are published annually, each of six issues and a new volume begins in July and January. Each volume contains the translation of one volume of the *Journal of Experimental and Theoretical Physics*.

The American Institute of Physics and its translators propose to translate faithfully all the material appearing in the original articles. The views expressed in the translations are therefore those of the original authors, and not of the translators nor of the American Institute of Physics.

The transliteration of the names of Russian authors follows essentially the standard agreed upon by the British Standards Institute and the American National Standards Institute (Committee Z39).

Subscriptions, renewals, address changes, and single-copy orders should be addressed to: Subscription Fulfillment Division, American Institute of Physics, 335 East 45th Street, New York, N.Y. 10017. Allow at least six weeks advance notice. For address changes please send both old and new addresses, and, if possible, include an address-stencil imprint from the mailing wrapper of a recent issue. For your convenience a **change of address form** is included in every issue of *Physics Today*; please use it.

Subscription prices (for Vols. 37-38, July 1973-June 1974):

U.S.A., Canada, Mexico	Europe, Middle East, North Africa (mandatory air freight)	Foreign (surface mail)	Optional air freight (Asia)	Single copies
\$120.00	\$126.00	\$124.00	\$135.00	\$11.00

Complete volumes of *Soviet Physics—JETP* are available on microfilm (16 mm or 35 mm on reels or cartridges): Vols. 1-33 (July 1955-December 1971) \$1295; Vols. 34-35 (January-December 1972) \$105.

Soviet Physics—JETP also appears on a monthly basis in *Current Physics Microform* (CPM) Section II (\$1500 per year) along with 15 other translation journals published by the American Institute of Physics and its member societies. A subject index to CPM, *Current Physics Titles*, is published monthly in 3 sections (Atoms & Waves, Solid State, Nuclei & Particles) at \$10 per section for members and \$25 for nonmembers. Abstracts of articles to be published in *Soviet Physics—JETP* appear two or more months ahead in *Current Physics Advance Abstracts*, available in 3 sections at \$15 per section for members and \$40 for nonmembers.

Analytic subject index to volume 36:

1239 1.40 Classical and quantum mechanics
1239 1.50 Relativity and gravitation
1239 1.60 Statistical physics and thermodynamics
1239 2.10 General elementary-particle theory and quantum field theory
1239 2.20 Elementary-particle processes
1240 2.30 Experiments on properties of specific particles and resonances, and status of fundamental laws
1240 2.50 Nuclear structure
1240 2.55 Nuclear decay
1240 2.60 Nuclear reactions and scattering
1240 2.70 Properties of specific nuclei
1240 2.90 Experimental methods and instrumentation for elementary particle and nuclear physics
1240 3.10 Atoms
1241 3.20 Molecules
1241 3.40 Physical chemistry
1241 4.10 Fluid dynamics
1241 4.20 Structure and properties of fluids
1242 4.30 Plasma physics
1244 4.35 Quantum fluids
1245 5.10 Crystallography and structural configuration of solids
1245 5.15 Lattice dynamics
1245 5.20 Energy states in solids
1246 5.25 Mechanical and acoustical phenomena
1247 5.30 Thermal and thermodynamic phenomena
1247 5.35 Transport phenomena
1248 5.40 Dielectric and ferroelectric phenomena
1248 5.45 Superconductivity
1248 5.50 Magnetic properties of solids
1249 5.55 Magnetic resonance and relaxation
1250 5.60 Optical properties of solids
1250 5.70 Passage of particles and radiation through solids
1251 5.80 Physics of surfaces, thin films, interfaces and small particles
1252 5.90 Solid state devices
1252 6.20 Electromagnetic technological applications
1252 6.30 Optics
1253 6.40 Geophysics
1253 7.30 Stellar astronomy
1253 7.40 Galactic and extragalactic astronomy

1254 Author index to volume 36

This index is based on the 1973 *Physics and Astronomy Classification Scheme* developed by AIP. It is not a translation. It was produced by computer-aided photocomposition directly from the magnetic tapes of the AIP's Current Physics Information System. Suggestions for improvements as well as other comments are welcome and should be addressed to the Editor.

A new feature introduced in this index is the inclusion of microfilm reel and frame numbers for the convenience of those wishing to find articles in *Current Physics Microform* (CPM), the monthly microfilm edition of the complete set of journals of the American Institute of Physics. These numbers are given in the form CPM-7201A0321, where 72 refers to the year, 01 denotes the month (January in this example), A the cartridge (generally there are four cartridges every month: A, B, C, D), and 0321 the frame.

SUBJECT INDEX TO VOLUME 36

Papers are arranged in ascending page number order. The symbols after the title of the paper indicate the general emphasis of the paper: (T)—Theoretical, (E)—Experimental, (T/E)—Experimental and Theoretical, (R)—Review.

1.40. CLASSICAL AND QUANTUM MECHANICS

1.40.40. Classical Electrodynamics and Classical Field Theory

1.40.40.40. Electromagnetic Wave Theory

Bremsstrahlung Spectrum of Ultrarelativistic Electrons in a Dense Medium (T)—A. A. Varfolomeev, V. A. Bazylev and N. K. Zhevago. 36(3), 430–5 (Mar. 1973); CPM-7309D0430

Electromagnetic Radiation in a Moving Medium (T)—A. I. Alekseev and Yu. P. Nikitin. 36(4), 629–30 (Apr. 1973); CPM-7310E0779

The “imaginary-time” method in problems concerning the ionization of atoms and pair production (T)—V. S. Popov. 36(5), 840–6 (May 1973); CPM-7311E0582

Interference of synchrotron radiation photons from a single electron (E)—I. A. Grishaev, I. S. Guk, A. S. Mazmanishvili and A. S. Tarasenko. 36(5), 870–1 (May 1973); CPM-7311E0612

Radiation emitted by relativistic particles in periodic structures (T)—V. N. Baier, V. M. Katkov and V. M. Strakhovenko. 36(6), 1120–4 (Jun. 1973); CPM-7312F0456

1.40.40.90. Other Topics in Classical Field Theory

Phenomenological Electrodynamics of Gyrotropic Media (T)—V. M. Agranovich and V. L. Ginzburg. 36(3), 440–3 (Mar. 1973); CPM-7309D0440

Surface excitons and electrostatic image forces at the metal–dielectric boundary with allowance for field penetration into the metal (T)—V. M. Agranovich, A. G. Malshukov and M. A. Mekhtiev. 36(6), 1203–9 (Jun. 1973); CPM-7312F0539

1.40.90. Other Topics in Mechanics

Theory of the Shadow Effect (T)—G. M. Filippov, N. G. Vodyanov and V. I. Korneev. 36(3), 404–6 (Mar. 1973); CPM-7309D0404

Radiation emitted by relativistic particles in periodic structures (T)—V. N. Baier, V. M. Katkov and V. M. Strakhovenko. 36(6), 1120–4 (Jun. 1973); CPM-7312F0456

1.50. RELATIVITY AND GRAVITATION

Gravitational Radiation in the Scalar–Tensor Gravitation Theory (T)—L. E. Gurevich and S. D. Dynkin. 36(2), 195–8 (Feb. 1973); CPM-7307E0769

Collision between an Electromagnetic Wave and a Gravitational Wave Packet (T)—Yu. G. Sbytov. 36(3), 387–90 (Mar. 1973); CPM-7309D0387

Effect of Scalar and Vector Fields on the Nature of the Cosmological Singularity (T)—V. A. Belinskii and I. M. Khalatnikov. 36(4), 591–7 (Apr. 1973); CPM-7310E0741

An investigation of gravitational fields in an anisotropic model with matter and neutrinos (T)—I. S. Shikin. 36(5), 811–5 (May 1973); CPM-7311E0553

Gravitational synchrotron radiation (T)—A. G. Doroshkevich, I. D. Novikov and A. G. Polnarev. 36(5), 816–20 (May 1973); CPM-7311E0558

1.60. STATISTICAL PHYSICS AND THERMODYNAMICS

1.60.70. Thermodynamics

1.60.70.30. Thermodynamic Phase Transitions

Features of phase transitions associated with two- and three-component order parameters (T)—Yu. M. Gufan and V. P. Sakhnenko. 36(5), 1009–14 (May 1973); CPM-7311E0751

1.60.70.50. Critical-Point Phenomena

Thermodynamic Quantities for Pure Liquids and the Applicability of the Asymptotic Laws near the Critical Point (E/T)—A. V. Voronel', V. G. Gorbunova, V. A. Smirnov, N. G. Shmakov and V. V. Shchekochikhina. 36(3), 505–13 (Mar. 1973); CPM-7309D0505

Properties of Matter at Susceptibility Extremum Points in Stationary Fields in the Vicinity of the Critical State (E/T)—A. D. Alekhin, N. P. Krupskii and A. V. Chalyi. 36(4), 751–2 (Apr. 1973); CPM-7310E0901

Isomorphism of Critical Phenomena (T)—A. Z. Patashinskii, V. L. Pokrovskii and S. B. Khokhlachev. 36(4), 807–8 (Apr. 1973); CPM-7310E0957

Features of phase transitions associated with two- and three-component order parameters (T)—Yu. M. Gufan and V. P. Sakhnenko. 36(5), 1009–14 (May 1973); CPM-7311E0751

1.60.90. Other Topics in Statistical Physics

The Boltzmann H-Theorem for an Imperfect Gas (T)—Yu. L. Klimontovich. 36(1), 78–81 (Jan. 1973); CPM-7305D0612

Statistical Theory of the Polarizability of Atoms and Ions (T/E)—A. V. Vinogradov, V. V. Pustovalov and V. P. Shevel'ko. 36(2), 252–4 (Feb. 1973); CPM-7307E0826

Macroscopic Theory of Fast Processes in Translation-Invariant Systems (T)—G. E. Skvortsov. 36(2), 266–73 (Feb. 1973); CPM-7307E0840

Investigation of the Statistical Properties of Ultrashort Light Pulses by Two-Photon Absorption in Semiconductors (T)—V. V. Arsen'ev, V. S. Dneprovskii, D. N. Klyshko, V. S. Fokin and V. U. Khattatov. 36(3), 407–10 (Mar. 1973); CPM-7309D0407

Theory of Diffusion Aftereffect (T)—P. A. Bereznyak, I. G. Ivanov and V. V. Slezov. 36(3), 561–5 (Mar. 1973); CPM-7309D0561

Noise emission by a resonant medium in a strong field (T)—P. S. Landa and E. F. Slin'ko. 36(5), 852–7 (May 1973); CPM-7311E0594

2.10. GENERAL ELEMENTARY-PARTICLE THEORY AND QUANTUM FIELD THEORY

The Influence of Strong Interactions on Vacuum Polarization (T)—A. M. Polyakov. 36(1), 12–7 (Jan. 1973); CPM-7305D0546

Shadow corrections to pion–deuteron and proton–deuteron collisions (T)—V. V. Anisovich, P. E. Volkovitskii and L. G. Dakhno. 36(5), 835–9 (May 1973); CPM-7311E0577

2.20. ELEMENTARY-PARTICLE PROCESSES

2.20.50. Pion–Baryon Interactions

Pion–Deuteron Scattering Length (T)—V. M. Kolybasov and A. E. Kudryavtsev. 36(1), 18–23 (Jan. 1973); CPM-7305D0552

Cross Section for Deuteron Disintegration by π Mesons Near Threshold (T)—A. E. Kudryavtsev. **36**(2), 204–7 (Feb. 1973); CPM-7307E0778

Shadow corrections to pion-deuteron and proton-deuteron collisions (T)—V. V. Anisovich, P. E. Volkovitskii and L. G. Dakhno. **36**(5), 835–9 (May 1973); CPM-7311E0577

2.20.90. Other Topics in Elementary-Particle Processes

A New Determination of the Proton Magnetic Moment in Terms of the Nuclear Magneton to Within 4.3×10^{-5} (E)—B. A. Mamyrin, N. N. Aruev and S. A. Alekseenko. **36**(1), 1–9 (Jan. 1973); CPM-7305D0535

The Influence of Strong Interactions on Vacuum Polarization (T)—A. M. Polyakov. **36**(1), 12–7 (Jan. 1973); CPM-7305D0546

Description of Electroporation Processes by Using the Approximation of Quasi-Real Photons (T)—V. N. Baier and V. S. Fadin. **36**(3), 399–403 (Mar. 1973); CPM-7309D0399

Electron-Positron Pair Production by a Coulomb Center Located in a Constant Field (T)—N. B. Narozhnyi and A. I. Nikishov. **36**(4), 598–601 (Apr. 1973); CPM-7310E0748

Production of Triplets by Polarized Photons (T)—E. A. Vinokurov and E. A. Kuraev. **36**(4), 602–6 (Apr. 1973); CPM-7310E0752

Shadow corrections to pion-deuteron and proton-deuteron collisions (T)—V. V. Anisovich, P. E. Volkovitskii and L. G. Dakhno. **36**(5), 835–9 (May 1973); CPM-7311E0577

A dual model for Fermions without parity degeneracy on the principal trajectory (T)—V. A. Kudryavtsev and E. M. Levin. **36**(6), 1045–51 (Jun. 1973); CPM-7312F0381

2.30. EXPERIMENTS ON PROPERTIES OF SPECIFIC PARTICLES AND RESONANCES, AND STATUS OF FUNDAMENTAL LAWS

A New Determination of the Proton Magnetic Moment in Terms of the Nuclear Magneton to Within 4.3×10^{-5} (E)—B. A. Mamyrin, N. N. Aruev and S. A. Alekseenko. **36**(1), 1–9 (Jan. 1973); CPM-7305D0535

2.50. NUCLEAR STRUCTURE

New Data on Alpha Decay of ^{253}Es and the Energy Levels of the ^{249}Bk and ^{250}Bk Nuclei (E)—S. A. Baranov, V. M. Shatinskii, V. M. Kulakov and Yu. F. Rodionov. **36**(2), 199–203 (Feb. 1973); CPM-7307E0773

Structure of residual interaction in spherical nuclei (T)—A. M. Kamchatnov and V. G. Nosov. **36**(6), 1036–44 (Jun. 1973); CPM-7312F0372

Phase transition in nuclear matter and non-pair nuclear forces (T)—A. B. Migdal. **36**(6), 1052–5 (Jun. 1973); CPM-7312F0388

2.55. NUCLEAR DECAY

Calculation of the $\text{p} + \text{He}^{++}$ Reaction (T)—A. V. Matveenko and L. I. Ponomarev. **36**(1), 24–6 (Jan. 1973); CPM-7305D0558

New Data on Alpha Decay of ^{253}Es and the Energy Levels of the ^{249}Bk and ^{250}Bk Nuclei (E)—S. A. Baranov, V. M. Shatinskii, V. M. Kulakov and Yu. F. Rodionov. **36**(2), 199–203 (Feb. 1973); CPM-7307E0773

2.60. NUCLEAR REACTIONS AND SCATTERING

Multiple Acceleration of Neutrons in an Inversely Populated Medium (T)—Yu. V. Petrov. **36**(3), 395–8 (Mar. 1973); CPM-7309D0395

Photodisintegration of Cl^{12} at γ -ray energies from 250 to 1200 MeV (E)—S. G. Tonapetyan, N. V. Goncharov, A. I. Derebchinskii, O. G. Konovalov and V. M. Khvorostyan. **36**(6), 1033–5 (Jun. 1973); CPM-7312F0369

2.70. PROPERTIES OF SPECIFIC NUCLEI

Calculation of the $\text{p} + \text{He}^{++}$ Reaction (T)—A. V. Matveenko and L. I. Ponomarev. **36**(1), 24–6 (Jan. 1973); CPM-7305D0558

New Data on Alpha Decay of ^{253}Es and the Energy Levels of the ^{249}Bk and ^{250}Bk Nuclei (E)—S. A. Baranov, V. M. Shatinskii, V. M. Kulakov and Yu. F. Rodionov. **36**(2), 199–203 (Feb. 1973); CPM-7307E0773

2.90. EXPERIMENTAL METHODS AND INSTRUMENTATION FOR ELEMENTARY-PARTICLE AND NUCLEAR PHYSICS

Low-Pressure Streamer Chamber in a Magnetic Field (E)—N. Z. Anisimova, V. A. Davidenko, B. A. Dolgoshein, S. V. Somov and V. N. Starosel'tsev. **36**(1), 10–1 (Jan. 1973); CPM-7305D0544

A new particle detector—the crystal filament counter (E)—A. F. Pisarev, V. F. Pisarev and G. S. Revenko. **36**(5), 828–34 (May 1973); CPM-7311E0570

Acceleration of atoms by a resonance field (E/T)—A. P. Kazantsev. **36**(5), 861–4 (May 1973); CPM-7311E0603

3.10. ATOMS

3.10.20. Atomic Structure

3.10.20.40. Relativistic Corrections: Fine and Hyperfine Structure and Radiative Shifts

Hyperfine Broadening of the X-Ray Lines (E)—A. S. Ryl'nikov, A. I. Egorov, G. A. Ivanov, V. I. Marushenko, A. F. Mezentsev, A. I. Smirnov, O. I. Sumbaev and V. V. Fedorov. **36**(1), 27–32 (Jan. 1973); CPM-7305D0561

Change in the Hyperfine State of the Hydrogen Atom During its Collisions with Unsaturated Hydrocarbon Molecules in the Gaseous State (E)—E. B. Gordon, A. P. Perminov, B. I. Ivanov, V. I. Matyushenko, A. N. Ponomarev and V. L. Tal'Roze. **36**(2), 212–5 (Feb. 1973); CPM-7307E0786

Interference of the $2p_{1/2}$ State of the Hydrogen Atom (E)—Yu. L. Sokolov. **36**(2), 243–51 (Feb. 1973); CPM-7307E0817

3.10.20.50. Conventional Atomic Spectroscopy: Atomic Levels, States, Transitions and Oscillator Strengths

Inelastic Energy Loss and Ionization in Excitation of Outer and Inner Electron Shells During Atomic Collisions (E)—V. V. Afrosimov, Yu. S. Gordeev, A. M. Polyanskii and A. P. Shergin. **36**(3), 418–25 (Mar. 1973); CPM-7309D0418

Theory of Radiation from a System of Weakly Interacting Particles (T)—O. N. Gadomskii, V. R. Nagibarov and N. K. Solovarov. **36**(3), 426–9 (Mar. 1973); CPM-7309D0426

Effect of collisions on the shape of the neon spectral lines (E)—Yu. A. Matyugin, A. S. Provorov and V. P. Chebotaev. **36**(6), 1080–90 (Jun. 1973); CPM-7312F0416

3.10.20.90. Other Topics in Atomic Structure

Hyperfine Broadening of the X-Ray Lines (E)—A. S. Ryl'nikov, A. I. Egorov, G. A. Ivanov, V. I. Marushenko, A. F. Mezentsev, A. I. Smirnov, O. I. Sumbaev and V. V. Fedorov. **36**(1), 27–32 (Jan. 1973); CPM-7305D0561

Statistical Theory of the Polarizability of Atoms and Ions (T/E)—A. V. Vinogradov, V. V. Pustovalov and V. P. Shevel'ko. **36**(2), 252–4 (Feb. 1973); CPM-7307E0826

Calculation of the Multipole Polarizabilities and van der Waals Constants for Noble Gas Atoms (T)—M. Ya. Amus'ya, N. A. Cherepkov and S. G. Shapiro. **36**(3), 468–72 (Mar. 1973); CPM-7309D0468

3.10.90. Other Topics in Atoms

Calculation of the $\text{p} + \text{He}^{++}$ Reaction (T)—A. V. Matveenko and L. I. Ponomarev. **36**(1), 24–6 (Jan. 1973); CPM-7305D0558

The "imaginary-time" method in problems concerning the ionization of atoms and pair production (T)—V. S. Popov. **36**(5), 840–6 (May 1973); CPM-7311E0582

A unified description of the resonance line profile in the energy spectra of scattered and emitted electrons (T)—V. V. Balashov, S. S. Lipovetskii and V. S. Senashenko. **36**(5), 858–60 (May 1973); CPM-7311E0600

Strong saturation of inhomogeneously broadened lines (T)—L. L. Buishvili, M. D. Zviadadze and G. R. Khutishvili. 36(5), 933–8 (May 1973); CPM-7311E0675

3.20. MOLECULES

3.20.60. Collision Processes and Interaction of Molecules, Atoms, or Ions

3.20.60.60. Electron Scattering from Atoms; Excitation and Ionization by Electron Impact

Inelastic Energy Loss and Ionization in Excitation of Outer and Inner Electron Shells During Atomic Collisions (E)—V. V. Afrosimov, Yu. S. Gordeev, A. M. Polyanskii and A. P. Shergin. 36(3), 418–25 (Mar. 1973); CPM-7309D0418

Contribution of Collisions to Multiphoton Resonances in Gases (T)—N. F. Perel'man and V. A. Kovarskii. 36(3), 436–9 (Mar. 1973); CPM-7309D0436

Some Features of Large-Angle Elastic Electron-Atom Scattering at Intermediate Energies (T)—V. V. Rumyantsev, Yu. A. Morozov and B. N. Libenson. 36(4), 643–5 (Apr. 1973); CPM-7310E0793

A unified description of the resonance line profile in the energy spectra of scattered and emitted electrons (T)—V. V. Balashov, S. S. Lipovetskii and V. S. Senashenko. 36(5), 858–60 (May 1973); CPM-7311E0600

Experimental investigation of the excitation of Ar II and Kr II in electron-ion collisions (E)—I. P. Zapesochnyi, A. I. Imre, A. I. Dashchenko, V. S. Vukstich, F. F. Danch and V. A. Kel'man. 36(6), 1056–60 (Jun. 1973); CPM-7312F0392

Asymptotic form of the amplitude of the inelastic scattering of fast electrons by hydrogen atoms (T)—V. S. Potapov. 36(6), 1105–10 (Jun. 1973); CPM-7312F0441

3.20.60.80. Charge Transfer

Asymptotic Cross Section for Electron Capture by Fast Protons Molecular Hydrogen and Helium (T)—V. S. Potapov. 36(2), 228–34 (Feb. 1973); CPM-7307E0802

Inelastic Energy Loss and Ionization in Excitation of Outer and Inner Electron Shells During Atomic Collisions (E)—V. V. Afrosimov, Yu. S. Gordeev, A. M. Polyanskii and A. P. Shergin. 36(3), 418–25 (Mar. 1973); CPM-7309D0418

Experimental investigation of the excitation of Ar II and Kr II in electron-ion collisions (E)—I. P. Zapesochnyi, A. I. Imre, A. I. Dashchenko, V. S. Vukstich, F. F. Danch and V. A. Kel'man. 36(6), 1056–60 (Jun. 1973); CPM-7312F0392

3.20.60.90. Other Topics in Collision Processes

Calculation of the Collision Cross Sections for Slow Excited Atoms and Molecules (T)—L. P. Kudrin and Yu. V. Mikhailova. 36(1), 33–8 (Jan. 1973); CPM-7305D0567

Change in the Hyperfine State of the Hydrogen Atom During its Collisions with Unsaturated Hydrocarbon Molecules in the Gaseous State (E)—E. B. Gordon, A. P. Perminov, B. I. Ivanov, V. I. Matyushenko, A. N. Ponomarev and V. L. Tal'Roze. 36(2), 212–5 (Feb. 1973); CPM-7307E0786

Calculation of the Multipole Polarizabilities and van der Waals Constants for Noble Gas Atoms (T)—M. Ya. Amus'ya, N. A. Cherepkov and S. G. Shapiro. 36(3), 468–72 (Mar. 1973); CPM-7309D0468

Effect of Selective Collisions on the Velocity Distribution of Atoms and on Nonlinear Interference Effects (T)—A. P. Kolchenko, A. A. Pukhov, S. G. Rautian and A. M. Shalagin. 36(4), 619–28 (Apr. 1973); CPM-7310E0769

Effect of collisions on the shape of the neon spectral lines (E)—Yu. A. Matyugin, A. S. Provorov and V. P. Chebotaev. 36(6), 1080–90 (Jun. 1973); CPM-7312F0416

Kinetics of excitation of molecular vibrations by infrared laser radiation (T)—V. S. Letokhov and A. A. Makarov. 36(6), 1091–6 (Jun. 1973); CPM-7312F0427

3.20.90. Other Topics in Molecules

Determination of the Ratio of the Proton and Deuteron Nuclear Magnetic Moments (E)—D. M. Kaminker, Yu. I. Neronov, V. Mukhamadiev and A. I. Pautov. 36(2), 208–11 (Feb. 1973); CPM-7307E0782

Nuclear pumping in molecular gas lasers (T)—V. M. Andriyakhin, V. V. Vasil'ev, S. S. Krasil'nikov and V. D. Pis'mennyi. 36(5), 865–9 (May 1973); CPM-7311E0607

Strong saturation of inhomogeneously broadened lines (T)—L. L. Buishvili, M. D. Zviadadze and G. R. Khutishvili. 36(5), 933–8 (May 1973); CPM-7311E0675

3.40. PHYSICAL CHEMISTRY

Calculation of Intermolecular Interaction Forces between Bodies Separated by a Film of a Strong Electrolyte Solution (T)—V. N. Gorelikin and V. P. Smilga. 36(4), 761–4 (Apr. 1973); CPM-7310E0911

Some features of the Auger electron spectrum in the interaction between oxygen and the (111) surface of GaP (E)—A. Yu. Mityagin, V. P. Orlov, K. A. Khronopulo and N. Ya. Cherevatskii. 36(5), 906–8 (May 1973); CPM-7311E0648

Effect of adsorption on electron emission from metals (E)—A. M. Brodskii, Yu. Ya. Gurevich and S. V. Sherberstov. 36(5), 948–56 (May 1973); CPM-7311E0690

4.10. FLUID DYNAMICS

Turbulent Flow of Liquid Crystals in an Electric Field (T)—S. A. Pilkin. 36(3), 588–90 (Mar. 1973); CPM-7309D0588

Gas-Dynamic Structures of a Plasma Flare Produced During the Evaporation of Metals by High-Intensity Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(4), 654–8 (Apr. 1973); CPM-7310E0804

4.20. STRUCTURE AND PROPERTIES OF FLUIDS

4.20.20. Specific Studies on Liquid and Liquid-Solution Structure

Investigation of the Formation of Local Concentrations near the Critical Liquid-Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Sklyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. 36(1), 82–8 (Jan. 1973); CPM-7305D0616

Vapor Pressure of Liquid Hydrogen-Deuterium Solutions Below 20.4 K (E)—N. G. Bereznyak, I. V. Bogoyavlenskii and L. V. Karnatsevich. 36(2), 304–6 (Feb. 1973); CPM-7307E0878

Turbulent Flow of Liquid Crystals in an Electric Field (T)—S. A. Pilkin. 36(3), 588–90 (Mar. 1973); CPM-7309D0588

Gas-Dynamic Structures of a Plasma Flare Produced During the Evaporation of Metals by High-Intensity Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(4), 654–8 (Apr. 1973); CPM-7310E0804

Determination of the dynamical and structural characteristics of liquid crystal from Mössbauer spectra (T)—V. G. Gol'danskii, O. P. Kevdin, N. K. Kivrina, E. F. Makarov, V. Ya. Rochev and R. A. Stukan. 36(6), 1226–8 (Jun. 1973); CPM-7312F0562

4.20.35. Thermodynamic Properties of Fluids

4.20.35.30. Critical-Point Phenomena

Investigation of the Formation of Local Concentrations near the Critical Liquid-Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Sklyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. 36(1), 82–8 (Jan. 1973); CPM-7305D0616

Effect of Periodic Perturbations on the Cholesteric Mesophase (T/E)—E. I. Kats. 36(1), 173–5 (Jan. 1973); CPM-7305D0707

Thermodynamic Quantities for Pure Liquids and the Applicability of the Asymptotic Laws near the Critical Point (E/T)—A. V. Voronel', V. G. Gorbunova, V. A. Smirnov, N. G. Shmakov and V. V. Shchekochikhina. 36(3), 505–13 (Mar. 1973); CPM-7309D0505

Properties of Matter at Susceptibility Extremum Points in Stationary Fields in the Vicinity of the Critical State (E/T)—A. D. Alekhin, N. P. Krupskii and A. V. Chalyi. 36(4), 751–2 (Apr. 1973); CPM-7310E0901

Isomorphism of Critical Phenomena (T)—A. Z. Patashinskii, V. L. Pokrovskii and S. B. Khokhlachev. 36(4), 807–8 (Apr. 1973); CPM-7310E0957

The coexistence curve of heptane near the critical point (E)—L. M. Artyukhovskaya, E. T. Shimanskaya and Yu. I. Shimanskii. 36(6), 1140–2 (Jun. 1973); CPM-7312F0476

Experimental verification of the isomorphism hypothesis of critical phenomena (E)—M. A. Anisimov, E. E. Gorodetskii and N. G. Shmakov. 36(6), 1143–50 (Jun. 1973); CPM-7312F0479

Long-range four-particle correlations at the critical point (T)—N. P. Malomuzh, V. P. Oleinik and I. Z. Fisher. 36(6), 1233–8 (Jun. 1973); CPM-7312F0569

4.20.35.90. Other Thermodynamic Properties of Fluids

Investigation of the Formation of Local Concentrations near the Critical Liquid–Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Sklyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. 36(1), 82–8 (Jan. 1973); CPM-7305D0616

Vapor Pressure of Liquid Hydrogen–Deuterium Solutions Below 20.4 K (E)—N. G. Bereznjak, I. V. Bogoyavlenskii and L. V. Karnatsevich. 36(2), 304–6 (Feb. 1973); CPM-7307E0878

Evaporation of Metallic Targets Caused by Intense Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(2), 311–22 (Feb. 1973); CPM-7307E0885

4.20.40. Transport Phenomena in Gases

Propagation Mechanism of an Ultrahigh-Frequency Discharge in Air (E)—V. M. Batenin, V. S. Zrodnikov, I. I. Klimovskii and N. I. Tsemko. 36(3), 449–52 (Mar. 1973); CPM-7309D0449

Effect of Periodic Variation of the Coefficient of Heat Transfer in the Knudsen Molecular Gas Placed in Magnetic Field (E)—V. D. Borman, V. S. Laz'ko and B. I. Nikolaev. 36(3), 466–7 (Mar. 1973); CPM-7309D0466

Optical breakdown of compressed gases by CO₂ laser radiation (E)—N. G. Basov, E. M. Belenov, V. A. Danilychev, O. M. Kerimov and I. B. Kovsh. 36(6), 1061–3 (Jun. 1973); CPM-7312F0397

4.20.65. Optical Properties of Fluids

4.20.65.30. Rayleigh and Brillouin Scattering

Stimulated Entropy (Temperature) Scattering and its Affect on Stimulated Mandel'shtam–Brillouin Scattering (E/T)—Yu. I. Kyzylasov, V. S. Starunov and I. L. Fabelinskii. 36(2), 216–22 (Feb. 1973); CPM-7307E0790

Spectral Width of Light Spontaneously Scattered in a Perfect Gas (T)—B. Ya. Zel'Dovich and I. I. Sobel'man. 36(2), 235–7 (Feb. 1973); CPM-7307E0809

Properties of Matter at Susceptibility Extremum Points in Stationary Fields in the Vicinity of the Critical State (E/T)—A. D. Alekhin, N. P. Krupskii and A. V. Chalyi. 36(4), 751–2 (Apr. 1973); CPM-7310E0901

4.20.65.90. Other Topics in Optical Properties of Fluids

The Polarization Properties of Light Spontaneously Scattered in a Liquid (Phenomenological Analysis) (T)—B. Ya. Zel'dovich. 36(1), 39–43 (Jan. 1973); CPM-7305D0573

Photon Echo in the Molecular Gases BCl₃ and SF₆ (E/T)—S. S. Alimpiev and N. V. Karlov. 36(2), 255–9 (Feb. 1973); CPM-7307E0829

Visualization of Radiation in the Millimeter and Submillimeter Range by Means of Liquid Crystals (E)—A. V. Tolmachev, E. Ya. Govorun and V. M. Kuz'michev. 36(2), 309–10 (Feb. 1973); CPM-7307E0883

Luminescence of a molecular gas under the action of CO₂ laser pulses (E)—V. S. Letokhov, E. A. Ryabov and O. A. Tumanov. 36(6), 1069–73 (Jun. 1973); CPM-7312F0405

Effect of collisions on the shape of the neon spectral lines (E)—Yu. A. Matyugin, A. S. Provorov and V. P. Chebotaev. 36(6), 1080–90 (Jun. 1973); CPM-7312F0416

The problem of laser radiation sources in the far ultraviolet and x-ray regions (T)—A. V. Vinogradov and I. I. Sobel'man. 36(6), 1115–9 (Jun. 1973); CPM-7312F0451

4.20.75. Properties of Liquid and Plastic Crystals

Effect of Periodic Perturbations on the Cholesteric Mesophase (T/E)—E. I. Kats. 36(1), 173–5 (Jan. 1973); CPM-7305D0707

Visualization of Radiation in the Millimeter and Submillimeter Range by Means of Liquid Crystals (E)—A. V. Tolmachev, E. Ya. Govorun and V. M. Kuz'michev. 36(2), 309–10 (Feb. 1973); CPM-7307E0883

Experimental Study of the Frequency of Domain Structure Orientation Oscillations in Liquid Crystals (E/T)—A. N. Chuvyrov. 36(3), 502–4 (Mar. 1973); CPM-7309D0502

Turbulent Flow of Liquid Crystals in an Electric Field (T)—S. A. Pilkin. 36(3), 588–90 (Mar. 1973); CPM-7309D0588

A New Type of Disclination in Liquid Crystals and the Stability of Disclinations of Various Types (T)—S. I. Anisimov and I. E. Dzyaloshinskii. 36(4), 774–9 (Apr. 1973); CPM-7310E0924

Propagation of hypersound and ultrasound in the isotropic phase of a nematic liquid crystal in the phase transition region (E)—I. M. Aref'ev, V. N. Biryukov, V. A. Gladkii, S. V. Krivokhizha, I. L. Fabelinskii and I. G. Chistyakov. 36(5), 913–5 (May 1973); CPM-7311E0655

Determination of the dynamical and structural characteristics of liquid crystal from Mössbauer spectra (T)—V. G. Gol'danskii, O. P. Kevdin, N. K. Kivrina, E. F. Makarov, V. Ya. Rochev and R. A. Stukan. 36(6), 1226–8 (Jun. 1973); CPM-7312F0562

4.20.90. Other Topics in Fluid Structure

The Boltzmann H-Theorem for an Imperfect Gas (T)—Yu. L. Klimontovich. 36(1), 78–81 (Jan. 1973); CPM-7305D0612

Investigation of the Formation of Local Concentrations near the Critical Liquid–Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Sklyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. 36(1), 82–8 (Jan. 1973); CPM-7305D0616

Quantum Kinetic Equations for a Nonideal Gas and a Nonideal Plasma (T)—Yu. L. Klimontovich and W. Ebeling. 36(3), 476–81 (Mar. 1973); CPM-7309D0476

Turbulent Flow of Liquid Crystals in an Electric Field (T)—S. A. Pilkin. 36(3), 588–90 (Mar. 1973); CPM-7309D0588

A new particle detector—the crystal filament counter (E)—A. F. Pisarev, V. F. Pisarev and G. S. Revenko. 36(5), 828–34 (May 1973); CPM-7311E0570

Relaxation of fast electrons in gases and semiconductors (T)—R. I. Lyagushchenko. 36(5), 901–5 (May 1973); CPM-7311E0643

Propagation of hypersound and ultrasound in the isotropic phase of a nematic liquid crystal in the phase transition region (E)—I. M. Aref'ev, V. N. Biryukov, V. A. Gladkii, S. V. Krivokhizha, I. L. Fabelinskii and I. G. Chistyakov. 36(5), 913–5 (May 1973); CPM-7311E0655

Strong saturation of inhomogeneously broadened lines (T)—L. L. Buishvili, M. D. Zviadadze and G. R. Khutishvili. 36(5), 933–8 (May 1973); CPM-7311E0675

Some properties of electrons in gaseous helium in the presence of a strong magnetic field (T)—L. S. Kukushkin and V. B. Shikin. 36(5), 969–72 (May 1973); CPM-7311E0711

Mechanism of gas ionization by an intense electron beam (E)—S. S. Kingsep, I. V. Novobrantsev, L. I. Rudakov, V. P. Smirnov and A. M. Spektor. 36(6), 1125–8 (Jun. 1973); CPM-7312F0461

4.30. PLASMA PHYSICS

4.30.20. Basic Properties of Plasmas

4.30.20.20. Thermodynamics of Plasmas

Equation of State of a Nonideal Cesium Plasma (E)—B. N. Lomakin and V. E. Fortov. 36(1), 48–53 (Jan. 1973); CPM-7305D0582

Existence of an Equilibrium Disperse Phase Containing Metallic Particles (T)—M. A. Krivoglas. 36(2), 354–60 (Feb. 1973); CPM-7307E0928

4.30.20.30. Plasma Kinetic Equations

Kinetic Theory of Parametric Excitation of Surface Waves in a Semifinite Plasma (T)—Yu. M. Aliev, O. M. Grakov and A. Yu. Kirii. 36(1), 59–63 (Jan. 1973); CPM-7305D0593
Kinetic Processes in a Laser Plasma (T)—Yu. V. Afanasev, É. M. Belenov, O. N. Krokhin and I. A. Poluéktof. 36(1), 64–8 (Jan. 1973); CPM-7305D0598

Ion Acceleration Upon Expansion of a Rarefied Plasma (T/E)—A. V. Gurevich, L. V. Pariiskaya and L. P. Pitaevskii. 36(2), 274–81 (Feb. 1973); CPM-7307E0848

Quantum Kinetic Equations for a Nonideal Gas and a Nonideal Plasma (T)—Yu. L. Klimontovich and W. Ebeling. 36(3), 476–81 (Mar. 1973); CPM-7309D0476

Collision Integral for a Low-Density Plasma (Quantum Theory) (T)—V. N. Alyamovskii. 36(3), 482–6 (Mar. 1973); CPM-7309D0482

Contribution to the Theory of Parametric Resonance in an Inhomogeneous Plasma (T)—Yu. M. Aliev, O. M. Grakov and A. Yu. Kirii. 36(4), 663–8 (Apr. 1973); CPM-7310E0813

4.30.20.50. Transport Properties

Anomalous Conductivity of Inhomogeneous Media in a Strong Magnetic Field (T)—Yu. A. Dreizin and A. M. Dykhne. 36(1), 127–36 (Jan. 1973); CPM-7305D0661

Diffusion in a High Frequency Gas Discharge (T)—B. É. Meierovich. 36(2), 291–9 (Feb. 1973); CPM-7307E0865

Electric Potential and Particle Concentration of a Plasma in the Vicinity of a Rapidly Moving Charge (T)—A. P. Dubovoi. 36(3), 498–501 (Mar. 1973); CPM-7309D0498

Nonlinear Plasma Ion Oscillations Excited by a Current (E/T)—E. Abu-Asali, B. A. Al'Terkop and A. A. Rukhadze. 36(4), 682–5 (Apr. 1973); CPM-7310E0832

4.30.20.60. Emission, Absorption and Scattering of Radiation

Spectral Width of Light Spontaneously Scattered in a Perfect Gas (T)—B. Ya. Zel'Dovich and I. I. Sobel'man. 36(2), 235–7 (Feb. 1973); CPM-7307E0809

Second-Harmonic Generation in an Inhomogeneous Laser Plasma (T)—A. V. Vinogradov and V. V. Pustovalov. 36(3), 492–7 (Mar. 1973); CPM-7309D0492

Plasma Effects in Stimulated Compton Interaction between Matter and Radiation (T)—A. A. Galeev and R. A. Syunyaev. 36(4), 669–76 (Apr. 1973); CPM-7310E0819

Optically initiated directional electrical breakdown in gas (E)—L. V. Norinskii, V. A. Pryadein and L. A. Rivlin. 36(5), 872–3 (May 1973); CPM-7311E0614

4.30.20.70. Propagation of Electromagnetic Waves in Plasmas

Combined Heating of a Plasma by an Electron Beam and an Intense Ion-Cyclotron Wave (E)—A. S. Bakai, A. I. Ermakov, S. S. Krivulya, N. I. Nazarov and V. T. Tolok. 36(4), 651–3 (Apr. 1973); CPM-7310E0801

Excitation of Parametric Instabilities in a Magnetoactive Plasma by a Microwave Pumping Wave (E)—N. E. Andreev, G. M. Batanov and K. A. Sarkyan. 36(4), 659–62 (Apr. 1973); CPM-7310E0809

Certain properties of an electron plasma in a strong electromagnetic field (T)—F. G. Bass. 36(5), 880–3 (May 1973); CPM-7311E0622

4.30.20.90. Other Topics in Basic Properties of Plasmas

Relaxation in a two-temperature plasma with directed electron motion (T)—I. A. Akhiezer and V. V. Angeleiko. 36(6), 1129–31 (Jun. 1973); CPM-7312F0465

4.30.30. Plasma Production and Heating

4.30.30.10. Plasma Sources and Discharges

Diffusion in a High Frequency Gas Discharge (T)—B. É. Meierovich. 36(2), 291–9 (Feb. 1973); CPM-7307E0865

Fluctuation Characteristics of a Dense Plasma of High Current Discharges Produced by Electric Explosion of Metallic Wires (E/T)—F. A. Nikolaev, Yu. V. Novitskii, V. B. Rozanov and Yu. P. Sviridenko. 36(3), 444–8 (Mar. 1973); CPM-7309D0444

Gas-Dynamic Structures of a Plasma Flare Produced During the Evaporation of Metals by High-Intensity Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(4), 654–8 (Apr. 1973); CPM-7310E0804

Optically initiated directional electrical breakdown in gas (E)—L. V. Norinskii, V. A. Pryadein and L. A. Rivlin. 36(5), 872–3 (May 1973); CPM-7311E0614

4.30.30.20. Plasma Heating

Collisionless Heating of Plasma Ions by an Ion Beam (E)—G. S. Kirichenko and V. G. Khmaruk. 36(1), 56–8 (Jan. 1973); CPM-7305D0590

Combined Heating of a Plasma by an Electron Beam and an Intense Ion-Cyclotron Wave (E)—A. S. Bakai, A. I. Ermakov, S. S. Krivulya, N. I. Nazarov and V. T. Tolok. 36(4), 651–3 (Apr. 1973); CPM-7310E0801

Plasma Effects in Stimulated Compton Interaction between Matter and Radiation (T)—A. A. Galeev and R. A. Syunyaev. 36(4), 669–76 (Apr. 1973); CPM-7310E0819

Investigation of the mechanism of heating of the plasma electron component under two-stream instability conditions in a mirror trap (E)—R. A. Demirkhanov, A. K. Gevorkov, A. F. Popov and O. A. Kolmakov. 36(5), 874–9 (May 1973); CPM-7311E0616

4.30.40. Plasma Flows

4.30.40.20. MHD Flows

Magnetic Pulsation Spectra in a Nonisothermal Plasma (T)—M. A. Livshitz and V. N. Tsytovich. 36(2), 286–90 (Feb. 1973); CPM-7307E0860

Fluctuation Characteristics of a Dense Plasma of High Current Discharges Produced by Electric Explosion of Metallic Wires (E/T)—F. A. Nikolaev, Yu. V. Novitskii, V. B. Rozanov and Yu. P. Sviridenko. 36(3), 444–8 (Mar. 1973); CPM-7309D0444

Oscillations of a Nondegenerate Plasma in Quantized Magnetic Fields (T)—V. V. Korneev and A. N. Starostin. 36(3), 487–91 (Mar. 1973); CPM-7309D0487

Effect of dispersion on the nonlinear evolution of quasi-monochromatic helical waves in a magnetoactive plasma (T/E)—Ya. N. Istomin and V. I. Karpman. 36(5), 897–900 (May 1973); CPM-7311E0639

4.30.40.30. Beams

Interaction between a Modulated Relativistic Beam and a Plasma (E/T)—A. K. Berezin, Ya. B. Fainberg, L. I. Bolotin, A. M. Egorov, V. A. Kiselev, V. A. Buts, V. I. Kurliko and A. P. Tolstoluzhskii. 36(3), 453–9 (Mar. 1973); CPM-7309D0453

Appearance of Turbulence during the Interaction of a "Monoenergetic" Beam with a Plasma (T)—N. G. Matsiborko, I. N. Onishchenko, Ya. B. Fainberg, V. D. Shapiro and V. I. Shevchenko. 36(3), 460–5 (Mar. 1973); CPM-7309D0460

Limiting Currents in Compensated Electron Beams with a Relativistic Energy Spread (T)—L. S. Bogdankevich and A. A. Rukhadze. 36(3), 473–5 (Mar. 1973); CPM-7309D0473

Combined Heating of a Plasma by an Electron Beam and an Intense Ion-Cyclotron Wave (E)—A. S. Bakai, A. I. Ermakov, S. S. Krivulya, N. I. Nazarov and V. T. Tolok. 36(4), 651–3 (Apr. 1973); CPM-7310E0801

Investigation of the mechanism of heating of the plasma electron component under two-stream instability conditions in a mirror trap (E)—R. A. Demirkhanov, A. K. Gevorkov, A. F. Popov and O. A. Kolmakov. 36(5), 874–9 (May 1973); CPM-7311E0616

High-frequency instability of an electromagnetic wave in a nonequilibrium magnetized plasma (T)—M. I. Rabinovich and S. M. Fainshtein. 36(5), 884–6 (May 1973); CPM-7311E0626

Nonlinear theory of the interaction between a monoenergetic beam and a dense plasma (T)—A. A. Ivanov, V. V. Parail and T. K. Soboleva. 36(5), 887–90 (May 1973); CPM-7311E0629

4.30.50. Plasma Waves and Instabilities

4.30.50.10. General Theory and Measurement Techniques

Ion Acceleration Upon Expansion of a Rarefied Plasma (T/E)—A. V. Gurevich, L. V. Pariiskaya and L. P. Pitaevskii. 36(2), 274–81 (Feb. 1973); CPM-7307E0848

Effect of dispersion on the nonlinear evolution of quasi-monochromatic helical waves in a magnetoactive plasma (T/E)—Ya. N. Istomin and V. I. Karpman. 36(5), 897–900 (May 1973); CPM-7311E0639

4.30.50.20. Linear Regime

Role of Nonlinear Effects in the Problem of the Anomalous Resistance of Plasma (T)—A. S. Kingsep. 36(2), 264–5 (Feb. 1973); CPM-7307E0838

Instability of a Current-Carrying Plasma at Cyclotron Harmonics and the Anomalous Resistance (T)—D. G. Lominadze. 36(4), 686–91 (Apr. 1973); CPM-7310E0836

Investigation of the mechanism of heating of the plasma electron component under two-stream instability conditions in a mirror trap (E)—R. A. Demirkhanov, A. K. Gevorkov, A. F. Popov and O. A. Kolmakov. 36(5), 874–9 (May 1973); CPM-7311E0616

Nonlinear theory of the interaction between a monoenergetic beam and a dense plasma (T)—A. A. Ivanov, V. V. Parail and T. K. Soboleva. 36(5), 887–90 (May 1973); CPM-7311E0629

Relaxation processes in a parametrically unstable plasma (T)—V. P. Silin. 36(5), 891–6 (May 1973); CPM-7311E0633

4.30.50.30. Nonlinear Interactions

Kinetic Theory of Parametric Excitation of Surface Waves in a Semifinite Plasma (T)—Yu. M. Aliev, O. M. Grakov and A. Yu. Kirii. 36(1), 59–63 (Jan. 1973); CPM-7305D0593

Nonlinear Evolution of a Quasimonochromatic Packet of Helical Waves in a Plasma (T/E)—Ya. N. Istomin and V. I. Karpman. 36(1), 69–74 (Jan. 1973); CPM-7305D0603

Damping of Long-Wave Plasma Oscillations (T)—V. S. Kapitonov and V. N. Popov. 36(1), 75–7 (Jan. 1973); CPM-7305D0609

Role of Nonlinear Effects in the Problem of the Anomalous Resistance of Plasma (T)—A. S. Kingsep. 36(2), 264–5 (Feb. 1973); CPM-7307E0838

Magnetic Pulsation Spectra in a Nonisothermal Plasma (T)—M. A. Livshitz and V. N. Tsytovich. 36(2), 286–90 (Feb. 1973); CPM-7307E0860

Excitation of Parametric Instabilities in a Magnetoactive Plasma by a Microwave Pumping Wave (E)—N. E. Andreev, G. M. Batanov and K. A. Sarksyan. 36(4), 659–62 (Apr. 1973); CPM-7310E0809

Contribution to the Theory of Parametric Resonance in an Inhomogeneous Plasma (T)—Yu. M. Aliev, O. M. Grakov and A. Yu. Kirii. 36(4), 663–8 (Apr. 1973); CPM-7310E0813

Contribution to the Theory of Parametric Interaction between a High Frequency Field and a Magnetoactive Plasma (T/E)—N. E. Andreev. 36(4), 677–81 (Apr. 1973); CPM-7310E0827

Nonlinear Plasma Ion Oscillations Excited by a Current (E/T)—E. Abu-Asali, B. A. Al'Terkop and A. A. Rukhadze. 36(4), 682–5 (Apr. 1973); CPM-7310E0832

4.30.50.40. Shock Waves

Equation of State of a Nonideal Cesium Plasma (E)—B. N. Lomakin and V. E. Fortov. 36(1), 48–53 (Jan. 1973); CPM-7305D0582

4.30.50.50. Plasma Turbulence

Magnetic Pulsation Spectra in a Nonisothermal Plasma (T)—M. A. Livshitz and V. N. Tsytovich. 36(2), 286–90 (Feb. 1973); CPM-7307E0860

Appearance of Turbulence during the Interaction of a "Monoenergetic" Beam with a Plasma (T)—N. G. Matsiborko, I. N. Onishchenko, Ya. B. Fainberg, V. D. Shapiro and V. I. Shevchenko. 36(3), 460–5 (Mar. 1973); CPM-7309D0460

4.30.90. Other Topics in Plasma Physics

Electric Breakdown in Large Neon Gaps Under Conditions of Preliminary Ionization (E)—N. S. Rudenko and V. I. Smetanin. 36(2), 260–3 (Feb. 1973); CPM-7307E0834

Electric Potential and Particle Concentration of a Plasma in the Vicinity of a Rapidly Moving Charge (T)—A. P. Dubovoi. 36(3), 498–501 (Mar. 1973); CPM-7309D0498

Investigation of the mechanism of heating of the plasma electron component under two-stream instability conditions in a mirror trap (E)—R. A. Demirkhanov, A. K. Gevorkov, A. F. Popov and O. A. Kolmakov. 36(5), 874–9 (May 1973); CPM-7311E0616

Nonlinear theory of the interaction between a monoenergetic beam and a dense plasma (T)—A. A. Ivanov, V. V. Parail and T. K. Soboleva. 36(5), 887–90 (May 1973); CPM-7311E0629

4.35. QUANTUM FLUIDS

4.35.20. Statistical Properties of Quantum Fluids

4.35.20.20. Boson Systems

Resonance Absorption of Electromagnetic Energy by Ions on a Vortex in Superfluid Helium (T)—Yu. A. Ermakov. 36(2), 327–9 (Feb. 1973); CPM-7307E0901

Superfluid component density distribution near the HeI–HeII phase interface in external fields (T)—A. A. Sobyanin. 36(5), 941–7 (May 1973); CPM-7311E0683

Absorption of fourth sound in He II near the λ point (T)—J. G. Sanikidze. 36(5), 1015–6 (May 1973); CPM-7311E0757

4.35.20.30. Fermion Systems

On the Kinetic Coefficients of a Superfluid Fermi Liquid (T)—V. S. Shumeiko. 36(2), 330–5 (Feb. 1973); CPM-7307E0904

Mobility of a Negative Ion in He^3 (T)—V. I. Mel'nikov. 36(2), 368–73 (Feb. 1973); CPM-7307E0942

Theory of the Kapitza Temperature Discontinuity at a Solid Body–Liquid Helium Boundary (T)—I. M. Khalantrikov and I. N. Ademenko. 36(3), 391–4 (Mar. 1973); CPM-7309D0391

4.35.20.70. Ions and Charged Impurities

Resonance Absorption of Electromagnetic Energy by Ions on a Vortex in Superfluid Helium (T)—Yu. A. Ermakov. 36(2), 327–9 (Feb. 1973); CPM-7307E0901

Mobility of a Negative Ion in He^3 (T)—V. I. Mel'nikov. 36(2), 368–73 (Feb. 1973); CPM-7307E0942

Theory of the Kapitza Temperature Discontinuity at a Solid Body–Liquid Helium Boundary (T)—I. M. Khalantrikov and I. N. Ademenko. 36(3), 391–4 (Mar. 1973); CPM-7309D0391

Superfluid component density distribution near the HeI–HeII phase interface in external fields (T)—A. A. Sobyanin. 36(5), 941–7 (May 1973); CPM-7311E0683

4.35.20.90. Other Topics in Statistical Properties of Quantum Fluids

Vapor Pressure of Hd^3He^4 Mixtures in the 0.7–1.3° K Temperature Range (E/T)—V. L. Vvedenskii and V. P. Peshkov. 36(4), 721–4 (Apr. 1973); CPM-7310E0871

Absorption of fourth sound in He II near the λ point (T)—J. G. Sanikidze. 36(5), 1015–6 (May 1973); CPM-7311E0757

4.35.40. Structure, Fluid Dynamics and Other Properties

Vapor Pressure of Liquid Hydrogen–Deuterium Solutions Below 20.4 K (E)—N. G. Bereznyak, I. V. Bogoyavlenskii and L. V. Karnatsevich. 36(2), 304–6 (Feb. 1973); CPM-7307E0878

Resonance Absorption of Electromagnetic Energy by Ions on a Vortex in Superfluid Helium (T)—Yu. A. Ermakov. 36(2), 327–9 (Feb. 1973); CPM-7307E0901

On the Kinetic Coefficients of a Superfluid Fermi Liquid (T)—V. S. Shumeiko. 36(2), 330–5 (Feb. 1973); CPM-7307E0904

Mobility of a Negative Ion in He^3 (T)—V. I. Mel'nikov. 36(2), 368–73 (Feb. 1973); CPM-7307E0942

Vapor Pressure of Hd^3He^4 Mixtures in the 0.7–1.3° K Temperature Range (E/T)—V. L. Vvedenskii and V. P. Peshkov. 36(4), 721–4 (Apr. 1973); CPM-7310E0871

Superfluid component density distribution near the HeI–HeII phase interface in external fields (T)—A. A. Sobyanin. 36(5), 941–7 (May 1973); CPM-7311E0683

Absorption of fourth sound in He II near the λ point (T)—J. G. Sanikidze. 36(5), 1015–6 (May 1973); CPM-7311E0757

5.10. CRYSTALLOGRAPHY AND STRUCTURAL CONFIGURATION OF SOLIDS

5.10.30. Crystal Defects

5.10.30.60. Interstitials and Vacancies

Vacancies in quantum crystals (T)—V. P. Mineev. 36(5), 964–8 (May 1973); CPM-7311E0706

5.10.30.70. Dislocations

Field-Ion-Microscopic Study of Interstitial Plasticity of Tungsten Microcrystals (E/T)—I. M. Mikhailovskii and Zh. I. Dranova. 36(2), 300–3 (Feb. 1973); CPM-7307E0874

Quantum and Classical Motion of Dislocations in a Peierls Potential Relief (T)—B. V. Petukhov and V. L. Pokrovskii. 36(2), 336–42 (Feb. 1973); CPM-7307E0910

Influence of Dislocations on the de Haas-van Alphen Effect (T)—A. I. Gutnikov and E. P. Fel'dman. 36(3), 553–5 (Mar. 1973); CPM-7309D0553

Experimental investigation of scattering of electrons by dislocations in copper (E)—V. F. Gantmakher, V. A. Gasparov, G. I. Kulesko and V. N. Matveev. 36(5), 925–8 (May 1973); CPM-7311E0667

Phonon component of dynamic dragging of dislocations (T)—V. I. Al'shitz and A. G. Mal'shukov. 36(5), 978–82 (May 1973); CPM-7311E0720

Attenuation of the critical vibrations in displacive-type ferroelectrics containing dislocations (T)—V. V. Tarasenko and V. D. Kharitonov. 36(6), 1189–92 (Jun. 1973); CPM-7312F0525

5.10.90. Other Topics in Crystallography

Estimate of the Energies of Symmetric Lattices of Non-Transition Metals by the Pseudo-Potential Method (T)—R. G. Arkhipov, E. S. Alekseev and A. F. Barabanov. 36(2), 323–6 (Feb. 1973); CPM-7307E0897

Transitions due to spin reorientation in a $\text{Ho}_{0.5}\text{Dy}_{0.5}\text{FeO}_3$ single crystal (E)—K. P. Belov, A. M. Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchi and A. Ya. Chervonenkis. 36(6), 1136–7 (Jun. 1973); CPM-7312F0472

5.15. LATTICE DYNAMICS

5.15.20. Phonons and Vibrations in Crystal Lattices

5.15.20.60. Phonon-Electron Interactions

Effect of Lattice Oscillations on the Tunnel Current in Normal Metals (T)—Yu. M. Ivanchenko and Yu. V. Medvedev. 36(1), 142–6 (Jan. 1973); CPM-7305D0676

Optical Constants and Electronic Characteristics of Titanium (E)—I. D. Mash and G. P. Motulevich. 36(3), 516–20 (Mar. 1973); CPM-7309D0516

Theory of Electron Dragging by Phonons in a Magnetic Field (T)—I. G. Lang and S. T. Pavlov. 36(4), 793–6 (Apr. 1973); CPM-7310E0943

5.15.20.90. Other Topics in Phonons and Vibrations in Crystal Lattices

Change of the Vanadium Phonon Spectrum Following Introduction of Tantalum Admixtures (E/T)—N. A. Chernoplekov, G. Kh. Panova, B. N. Samoilov and A. A. Shikov. 36(4), 731–5 (Apr. 1973); CPM-7310E0881

Phonon component of dynamic dragging of dislocations (T)—V. I. Al'shitz and A. G. Mal'shukov. 36(5), 978–82 (May 1973); CPM-7311E0720

5.15.90. Other Topics in Lattice Dynamics

Estimate of the Energies of Symmetric Lattices of Non-Transition Metals by the Pseudo-Potential Method (T)—R. G. Arkhipov, E. S. Alekseev and A. F. Barabanov. 36(2), 323–6 (Feb. 1973); CPM-7307E0897

Atomic Structure of Ordered Phases. Stability with Respect to Formation of Antiphase Domains (T)—A. G. Khachaturyan. 36(4), 753–60 (Apr. 1973); CPM-7310E0903

Nonlinear waves of second sound in solids (T)—F. G. Bass and V. D. Freilikh. 36(5), 1006–8 (May 1973); CPM-7311E0748

Propagation of a Rayleigh wave along a rough surface (T)—E. I. Urazakov and L. A. Fal'kovskii. 36(6), 1214–7 (Jun. 1973); CPM-7312F0550

5.20. ENERGY STATES IN SOLIDS

5.20.20. Energy Band Structure and Fermi Surfaces of Specific Types of Materials

5.20.20.15. Metals and Semimetals

Doppler Shifted Cyclotron Resonance in Cadmium (E/T)—O. V. Konstantinov, V. G. Skobov, V. V. Lavrova, L. M. Fisher and V. A. Yudin. 36(1), 118–26 (Jan. 1973); CPM-7305D0652

Doppler-Shifted Spin Resonance in the Electron Fluid of Metals (T)—G. B. Teitelbaum. 36(1), 176–81 (Jan. 1973); CPM-7305D0710

Magnetic Anisotropy of Nickel (T/E)—E. I. Kondorskii and E. Straube. 36(1), 188–93 (Jan. 1973); CPM-7305D0722

Role of Anisotropy in Exciton Transitions (T)—L. P. Gor'kov and T. T. Mnatsakanov. 36(2), 361–4 (Feb. 1973); CPM-7307E0935

Optical Constants and Electronic Characteristics of Titanium (E)—I. D. Mash and G. P. Motulevich. 36(3), 516–20 (Mar. 1973); CPM-7309D0516

Origin of the electron spectrum in metals of the bismuth group (T)—S. A. Gordunin and L. P. Gor'kov. 36(5), 1017–24 (May 1973); CPM-7311E0759

5.20.20.90. Other Materials

Theory of Uniaxial Crystals with Zero Forbidden Band (T)—I. B. Kulikov. 36(1), 163–5 (Jan. 1973); CPM-7305D0697

Quantum Landau Oscillations in MoO_2 and WO_2 (E)—E. P. Vol'skii and V. M. Teplinskii. 36(3), 550–2 (Mar. 1973); CPM-7309D0550

Threshold phenomena in a gapless semiconductor with a linear spectrum (T)—I. B. Kulikov. 36(6), 1223–5 (Jun. 1973); CPM-7312F0559

5.20.25. Localized Electron States and Other Electronic Theories or Models

Localized Electron States in Thin Layers due to Geometric Defects of the Surface (T)—È. M. Baskin, A. V. Chaplik and M. V. Èntin. 36(3), 566–9 (Mar. 1973); CPM-7309D0566

Cyclotron resonance in specular reflection of electrons from the surface of a metal (T)—D. E. Zherebchevskii and È. A. Kaner. 36(5), 983–9 (May 1973); CPM-7311E0725

Excitations in the one-dimensional Hubbard model (T)—G. V. Uimin and S. V. Fomichev. 36(5), 1001–6 (May 1973); CPM-7311E0743

Threshold phenomena in a gapless semiconductor with a linear spectrum (T)—I. B. Kulikov. 36(6), 1223–5 (Jun. 1973); CPM-7312F0559

5.20.30. Impurity and Defect Levels and Positron States

Vacancies in quantum crystals (T)—V. P. Mineev. 36(5), 964–8 (May 1973); CPM-7311E0706

Hyperfine interaction in optical orientation of electrons in semiconductors (T)—M. I. Dyakonov and V. I. Perel'. 36(5), 995–1000 (May 1973); CPM-7311E0737

Eikonal approximation in the problem of electron motion in the field of impurity centers (T)—S. L. Ginzburg. 36(6), 1198–202 (Jun. 1973); CPM-7312F0534

5.20.40. Level Splitting and Interactions in Crystals

5.20.40.40. Nuclear States and Interactions

Investigation of the Elementary Cross-Relaxation Act of the $^{Nd^{3+}}$ Ion Excited State in Crystals (T)—Yu. K. Voron'ko, V. V. Osiko and I. A. Shcherbakov. **36**(2), 365–7 (Feb. 1973); CPM-7307E0939

Electric and Magnetic Hyperfine Interactions of $^{Fe^{57}}$ Nuclei in a $Fe^{2+}_3Al_2Si_3O_{12}$ Crystal near the Neel Point (E/T)—A. P. Dodokin, I. S. Lyubutin, L. M. Belyaev and V. P. Peshkov. **36**(4), 738–41 (Apr. 1973); CPM-7310E0888

Hyperfine interaction in optical orientation of electrons in semiconductors (T)—M. I. Dyakonov and V. I. Perel'. **36**(5), 995–1000 (May 1973); CPM-7311E0737

5.20.40.90. Other Topics in Level Splitting

Investigation of the Elementary Cross-Relaxation Act of the $^{Nd^{3+}}$ Ion Excited State in Crystals (T)—Yu. K. Voron'ko, V. V. Osiko and I. A. Shcherbakov. **36**(2), 365–7 (Feb. 1973); CPM-7307E0939

Effect of short-range magnetic order on the temperature dependence of the copper tungstate EPR line width (E)—A. G. Anders and A. I. Zvyagin. **36**(6), 1151–4 (Jun. 1973); CPM-7312F0487

Exchange interactions and spin noncollinearity in hexagonal ferrites (E)—M. P. Petrov and A. V. Kunovich. **36**(6), 1184–8 (Jun. 1973); CPM-7312F0520

5.20.50. Quasiparticles and Complex Centers

5.20.50.10. Excitons

Role of Anisotropy in Exciton Transitions (T)—L. P. Gor'kov and T. T. Mnatsakanov. **36**(2), 361–4 (Feb. 1973); CPM-7307E0935

Electron–Hole Drops in Uniaxial–Deformed Germanium (E/T)—A. S. Alekseev, V. S. Bagayev and T. I. Galkina. **36**(3), 536–40 (Mar. 1973); CPM-7309D0536

The Superconductor–Excitonic Dielectric Phase Transition in a Semimetal (T)—A. G. Aronov and É. B. Sonin. **36**(3), 556–60 (Mar. 1973); CPM-7309D0556

Bose Condensation of Excitons in a Strong Magnetic Field (T)—V. F. Elesin and Yu. V. Kopaev. **36**(4), 767–70 (Apr. 1973); CPM-7310E0917

Nature of the phase transition under the conditions of an "excitonic" instability in the electronic spectrum of a crystal (T)—R. R. Guseinov and L. V. Keldysh. **36**(6), 1193–7 (Jun. 1973); CPM-7312F0529

Surface excitons and electrostatic image forces at the metal–dielectric boundary with allowance for field penetration into the metal (T)—V. M. Agranovich, A. G. Malshukov and M. A. Mekhtiev. **36**(6), 1203–9 (Jun. 1973); CPM-7312F0539

5.20.50.20. Polaron

Theory of Polarons in Many–Valley Crystals. II. Strong Interactions between an Electron and the Polarization Oscillations of the Lattice (T)—S. I. Pekar, V. I. Sheka and G. V. Dmitrenko. **36**(4), 771–3 (Apr. 1973); CPM-7310E0921

On the Theory of the Piezoelectric Polaron (T)—V. M. Edel'stein. **36**(4), 809–10 (Apr. 1973); CPM-7310E0959

5.20.65. Solid-State Plasmas, Hot Carriers and Helicons

The Spectrum and Excitation of Electromagnetic Waves in Bismuth in the Region of Hole Cyclotron Resonances (E/T)—V. P. Naberezhnikh, D. E. Zherebchevskii and V. L. Mel'nik. **36**(1), 89–95 (Jan. 1973); CPM-7305D0623

Kadomtsev–Nedospasov Helical Instability in a Strong Pinch Effect in an Electron–Hole Plasma (T)—V. V. Vladimirov and A. I. Shchedrin. **36**(4), 799–802 (Apr. 1973); CPM-7310E0949

Collective Relaxation of Nonequilibrium Photoelectrons in Quantized Magnetic Fields (T)—A. A. Ivanov and V. I. Ryzhii. **36**(4), 803–6 (Apr. 1973); CPM-7310E0953

Relaxation of fast electrons in gases and semiconductors (T)—R. I. Lyagushchenko. **36**(5), 901–5 (May 1973); CPM-7311E0643

The radio electric effect in a strong magnetic field (T)—V. P. Kaganov and V. P. Peshkov. **36**(6), 1210–3 (Jun. 1973); CPM-7312F0546

5.20.70. Spin Systems

Theory of Multi-Pulsed Excitation of Signals of the Light–Echo Type (T)—G. M. Ershov and U. Kh. Kopivillem. **36**(1), 147–52 (Jan. 1973); CPM-7305D0681

Transitions due to spin reorientation in a $Ho_{0.5}Dy_{0.5}FeO_3$ single crystal (E)—K. P. Belov, A. M. Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchi and A. Ya. Chervonenkis. **36**(6), 1136–7 (Jun. 1973); CPM-7312F0472

Matthiessen rule and high-temperature electrical resistivity of solid solutions of silicon in iron (E/T)—V. E. Zinov'ev, Sh. Sh. Abel'skii, M. I. Sandakova, L. N. Petrova and P. V. Gel'd. **36**(6), 1174–6 (Jun. 1973); CPM-7312F0510

5.20.90. Other Topics in Energy States in Solids

Resonance Width on Magnetic Surface Levels (T)—A. V. Vilenkin, É. A. Kaner and I. M. Fuks. **36**(1), 166–72 (Jan. 1973); CPM-7305D0700

Localized Electron States in Thin Layers due to Geometric Defects of the Surface (T)—É. M. Baskin, A. V. Chaplik and M. V. Entin. **36**(3), 566–9 (Mar. 1973); CPM-7309D0566

Singularities of multital ring diagrams for Fermi systems (T)—E. G. Brovman and Yu. Kagan. **36**(5), 1025–31 (May 1973); CPM-7311E0767

Nature of the phase transition under the conditions of an "excitonic" instability in the electronic spectrum of a crystal (T)—R. R. Guseinov and L. V. Keldysh. **36**(6), 1193–7 (Jun. 1973); CPM-7312F0529

5.25. MECHANICAL AND ACOUSTICAL PHENOMENA

5.25.70. Mechanical and Acoustic Waves in Solids

5.25.70.10. General Theory and Measurement Techniques

Acoustic Wave Excitation in Metals by Fast Charged Particles and Gamma Quanta (E)—I. A. Borshkovskii, V. D. Volovik, I. A. Grishchaev, I. I. Zalyubovskii, V. V. Petrenko, G. A. Chekhutskii and G. L. Fursov. **36**(4), 706–8 (Apr. 1973); CPM-7310E0856

On the Theory of the Piezoelectric Polaron (T)—V. M. Edel'stein. **36**(4), 809–10 (Apr. 1973); CPM-7310E0959

Absorption of Rayleigh sound waves in metals (T)—A. M. Grishin and É. A. Kaner. **36**(6), 1217–22 (Jun. 1973); CPM-7312F0553

5.25.70.90. Other Topics in Mechanical and Acoustic Waves in Solids

Effect of an Intense Electromagnetic Wave on the Propagation of Ultrasound in a Quantized Magnetic Field (T)—Yu. I. Balkarei and É. M. Épshtain. **36**(2), 349–51 (Feb. 1973); CPM-7307E0923

Theory of the Kapitza Temperature Discontinuity at a Solid Body–Liquid Helium Boundary (T)—I. M. Khalantrikov and I. N. Ademenko. **36**(3), 391–4 (Mar. 1973); CPM-7309D0391

5.25.85. Magnetoacoustic Effects

Theory of Magnetoacoustic Resonance (T)—E. K. Khenner. **36**(1), 137–41 (Jan. 1973); CPM-7305D0671

Theory of Multi-Pulsed Excitation of Signals of the Light–Echo Type (T)—G. M. Ershov and U. Kh. Kopivillem. **36**(1), 147–52 (Jan. 1973); CPM-7305D0681

Effect of an Intense Electromagnetic Wave on the Propagation of Ultrasound in a Quantized Magnetic Field (T)—Yu. I. Balkarei and É. M. Épshtain. **36**(2), 349–51 (Feb. 1973); CPM-7307E0923

Nonlinear Damping of Short–Wave Sound in a Conductor Located in a Magnetic Field (T)—Yu. M. Gal'perin and V. I. Kozub. **36**(3), 570–6 (Mar. 1973); CPM-7309D0570

Temperature Magnetoacoustic Resonance in Crystals with an Antiferro-ferromagnetic Transition (E/T)—I. A. Akhiezer, A. É. Ginzburg, L. N. Davydov and Z. A. Spol'nik. 36(4), 765-6 (Apr. 1973); CPM-7310E0915

Role of dipole-dipole interactions in acoustic saturation of nuclear spin levels in crystals (E/T)—G. L. Antokolskii, L. N. Fershtat, E. V. Charnaya and V. A. Shutilov. 36(5), 909-12 (May 1973); CPM-7311E0651

Absorption of Rayleigh sound waves in metals (T)—A. M. Grishin and É. A. Kaner. 36(6), 1217-22 (Jun. 1973); CPM-7312F0553

5.25.90. Other Mechanical and Acoustical Effects

Field-Ion-Microscopic Study of Interstitial Plasticity of Tungsten Microcrystals (E/T)—I. M. Mikhailovskii and Zh. I. Dranova. 36(2), 300-3 (Feb. 1973); CPM-7307E0874

Dependence of the Electric and Thermoelectric Properties of Antimony on Pressure (E)—E. L. Broide. 36(2), 307-8 (Feb. 1973); CPM-7307E0881

Nature of the photoplastic effect (T/E)—Yu. A. Osip'yan and V. F. Petrenko. 36(5), 916-20 (May 1973); CPM-7311E0658

Nonlinear acoustoelectric effect and amplification of ultrasound in indium antimonide (E/T)—P. E. Zil'berman, S. N. Ivanov, I. M. Kotelyanskii, G. D. Mansfeld and E. N. Khazanov. 36(5), 921-4 (May 1973); CPM-7311E0663

Dynamic effect on passage of a charged particle beam through solid bodies (T)—I. A. Akhiezer and V. T. Lazurik-El'tsufin. 36(5), 939-40 (May 1973); CPM-7311E0681

5.30. THERMAL AND THERMODYNAMIC PHENOMENA

5.30.40. Phase Properties of Systems

5.30.40.30. Structural Transformation (e.g. Polymorphic, Martensitic, etc.)

Phase Transition in Samarium (E)—A. S. Bulatov and V. A. Finkel'. 36(1), 112-3 (Jan. 1973); CPM-7305D0646

Effect of a Metal-Dielectric Phase Transition on the Superconducting Transition Temperature (T)—Yu. V. Kopaev and R. Kh. Timerov. 36(1), 153-62 (Jan. 1973); CPM-7305D0687

Atomic Structure of Ordered Phases. Stability with Respect to Formation of Antiphase Domains (T)—A. G. Khachaturyan. 36(4), 753-60 (Apr. 1973); CPM-7310E0903

Propagation of hypersound and ultrasound in the isotropic phase of a nematic liquid crystal in the phase transition region (E)—I. M. Aref'ev, V. N. Biryukov, V. A. Gladkii, S. V. Krivokhizha, I. L. Fabelinskii and I. G. Chistyakov. 36(5), 913-5 (May 1973); CPM-7311E0655

Electric and structural properties of low temperature bismuth films (E)—Yu. F. Komik, B. I. Belevtsev and L. A. Yatsuk. 36(6), 1177-83 (Jun. 1973); CPM-7312F0513

5.30.40.40. Phases: Existence, Phase Diagrams, etc.

Existence of an Equilibrium Disperse Phase Containing Metallic Particles (T)—M. A. Krivoglaz. 36(2), 354-60 (Feb. 1973); CPM-7307E0928

Origin of the electron spectrum in metals of the bismuth group (T)—S. A. Gordyunin and L. P. Gor'kov. 36(5), 1017-24 (May 1973); CPM-7311E0759

Electric and structural properties of low temperature bismuth films (E)—Yu. F. Komik, B. I. Belevtsev and L. A. Yatsuk. 36(6), 1177-83 (Jun. 1973); CPM-7312F0513

5.30.40.90. Other Topics in Phase Properties of Systems

Evaporation of Metallic Targets Caused by Intense Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(2), 311-22 (Feb. 1973); CPM-7307E0885

Field Ion Microscopic Study of the Microstructure of Superconducting Deformable Niobium Alloys (E)—R. I. Garber, B. G. Lazarev, L. S. Lazareva, I. M. Mikhailovskii and N. N. Sidorenko. 36(4), 718-20 (Apr. 1973); CPM-7310E0868

Matthiessen rule and high-temperature electrical resistivity of solid solutions of silicon in iron (E/T)—V. E. Zinov'ev, Sh. Sh. Abel'skii, M. I. Sandakova, L. N. Petrova and P. V. Gel'd. 36(6), 1174-6 (Jun. 1973); CPM-7312F0510

5.30.90. Other Topics in Thermodynamic Phenomena

Investigation of the Antiferro-Ferromagnetism Transition in an FeRh Alloy in a Pulsed Magnetic Field up to 300 kOe (E)—B. K. Ponomarev. 36(1), 105-7 (Jan. 1973); CPM-7305D0639

Phase Transition in Samarium (E)—A. S. Bulatov and V. A. Finkel'. 36(1), 112-3 (Jan. 1973); CPM-7305D0646

The Role of Absorbing Impurities in Laser-Induced Damage of Transparent Dielectrics (T/E)—Yu. K. Danileiko, A. A. Manenkov, V. S. Nechitailo, A. M. Prokhorov and V. Ya. Khaimov-Mal'kov. 36(3), 541-3 (Mar. 1973); CPM-7309D0541

Change of the Vanadium Phonon Spectrum Following Introduction of Tantalum Admixtures (E/T)—N. A. Chernoplekov, G. Kh. Panova, B. N. Samoilov and A. A. Shikov. 36(4), 731-5 (Apr. 1973); CPM-7310E0881

5.35. TRANSPORT PHENOMENA

5.35.30. Electronic Conduction in Metals and Alloys

5.35.30.40. Magnetoelectric and Other Magnetotransport Effects

Anomalous Conductivity of Inhomogeneous Media in a Strong Magnetic Field (T)—Yu. A. Dreizin and A. M. Dykhne. 36(1), 127-36 (Jan. 1973); CPM-7305D0661

Dependence of the Electric and Thermoelectric Properties of Antimony on Pressure (E)—E. L. Broide. 36(2), 307-8 (Feb. 1973); CPM-7307E0881

Galvanomagnetic Properties of Antimony at Low Temperatures. Size Effect, Role of Surface, and Shape Effects (E/T)—Yu. A. Bogod and V. B. Krasovitskii. 36(3), 544-9 (Mar. 1973); CPM-7309D0544

Some Relations from the Theory of Galvanomagnetic Phenomena (T)—G. T. Avanesyan and M. I. Kaganov. 36(4), 780-2 (Apr. 1973); CPM-7310E0930

5.35.30.90. Other Topics in Electronic Conduction of Metals and Alloys

Dependence of the Electric and Thermoelectric Properties of Antimony on Pressure (E)—E. L. Broide. 36(2), 307-8 (Feb. 1973); CPM-7307E0881

Effect of Impurities on the Residual Electric Resistivity of Cadmium (E/T)—B. N. Aleksandrov and V. V. Dukin. 36(2), 343-8 (Feb. 1973); CPM-7307E0917

Matthiessen rule and high-temperature electrical resistivity of solid solutions of silicon in iron (E/T)—V. E. Zinov'ev, Sh. Sh. Abel'skii, M. I. Sandakova, L. N. Petrova and P. V. Gel'd. 36(6), 1174-6 (Jun. 1973); CPM-7312F0510

5.35.40. Electronic Conduction in Semiconductors and Insulators

5.35.40.70. Magnetoelectric and Other Magnetotransport Effects

Anomalous Conductivity of Inhomogeneous Media in a Strong Magnetic Field (T)—Yu. A. Dreizin and A. M. Dykhne. 36(1), 127-36 (Jan. 1973); CPM-7305D0661

Kadomtsev-Nedospasov Helical Instability in a Strong Pinch Effect in an Electron-Hole Plasma (T)—V. V. Vladimirov and A. I. Shchedrin. 36(4), 799-802 (Apr. 1973); CPM-7310E0949

Collective Relaxation of Nonequilibrium Photoelectrons in Quantized Magnetic Fields (T)—A. A. Ivanov and V. I. Ryzhii. 36(4), 803-6 (Apr. 1973); CPM-7310E0953

5.35.40.90. Other Topics in Electronic Conduction of Semiconductors and Insulators

Anomalous Conductivity of Inhomogeneous Media in a Strong Magnetic Field (T)—Yu. A. Dreizin and A. M. Dykhne. 36(1), 127–36 (Jan. 1973); CPM-7305D0661

Electron–Hole Drops in Uniaxial–Deformed Germanium (E/T)—A. S. Alekseev, V. S. Bagaev and T. I. Galkina. 36(3), 536–40 (Mar. 1973); CPM-7309D0536

The Role of Absorbing Impurities in Laser–Induced Damage of Transparent Dielectrics (T/E)—Yu. K. Danileiko, A. A. Manenkov, V. S. Nechitailo, A. M. Prokhorov and V. Ya. Khaimov–Mal'kov. 36(3), 541–3 (Mar. 1973); CPM-7309D0541

Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcongenide Spinel CdCr_2S_4 (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. 36(4), 697–8 (Apr. 1973); CPM-7310E0847

Collective Relaxation of Nonequilibrium Photoelectrons in Quantized Magnetic Fields (T)—A. A. Ivanov and V. I. Ryzhii. 36(4), 803–6 (Apr. 1973); CPM-7310E0953

5.35.50. Mixed Conductivity and Conductivity Transitions in Solids

Effect of a Metal–Dielectric Phase Transition on the Superconducting Transition Temperature (T)—Yu. V. Kopaev and R. Kh. Timerov. 36(1), 153–62 (Jan. 1973); CPM-7305D0687

The Superconductor–Excitonic Dielectric Phase Transition in a Semimetal (T)—A. G. Aronov and É. B. Sonin. 36(3), 556–60 (Mar. 1973); CPM-7309D0556

Bose Condensation of Excitons in a Strong Magnetic Field (T)—V. F. Elesin and Yu. V. Kopaev. 36(4), 767–70 (Apr. 1973); CPM-7310E0917

5.35.90. Other Topics in Transport Phenomena

Theory of Electron Dragging by Phonons in a Magnetic Field (T)—I. G. Lang and S. T. Pavlov. 36(4), 793–6 (Apr. 1973); CPM-7310E0943

Noise emission by a resonant medium in a strong field (T)—P. S. Landa and E. F. Slin'ko. 36(5), 852–7 (May 1973); CPM-7311E0594

Phonon component of dynamic dragging of dislocations (T)—V. I. Al'shitz and A. G. Mal'shukov. 36(5), 978–82 (May 1973); CPM-7311E0720

5.40. DIELECTRIC AND FERROELECTRIC PHENOMENA

The Superconductor–Excitonic Dielectric Phase Transition in a Semimetal (T)—A. G. Aronov and É. B. Sonin. 36(3), 556–60 (Mar. 1973); CPM-7309D0556

On the Theory of the Piezoelectric Polaron (T)—V. M. Édel'shtein. 36(4), 809–10 (Apr. 1973); CPM-7310E0959

Origin of the electron spectrum in metals of the bismuth group (T)—S. A. Gordyunin and L. P. Gor'kov. 36(5), 1017–24 (May 1973); CPM-7311E0759

Attenuation of the critical vibrations in displacive-type ferroelectrics containing dislocations (T)—V. V. Tarasenko and V. D. Kharitonov. 36(6), 1189–92 (Jun. 1973); CPM-7312F0525

5.45. SUPERCONDUCTIVITY

5.45.20. Properties of the Superconducting State

5.45.20.20. Transition Temperature, Energy Gap, Critical Field and Critical Current

Effect of a Metal–Dielectric Phase Transition on the Superconducting Transition Temperature (T)—Yu. V. Kopaev and R. Kh. Timerov. 36(1), 153–62 (Jan. 1973); CPM-7305D0687

The tunneling of excitations from a superconductor and the increase of T_c (T/E)—A. G. Aronov and V. L. Gurevich. 36(5), 957–63 (May 1973); CPM-7311E0699

Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. 36(6), 1155–60 (Jun. 1973); CPM-7312F0491

5.45.20.70. Electrical, Magnetic and Optical Properties

Impedance of Tin in a Strong Magnetic Field and Scattering of Conductivity Electrons by the Metal Surface (E)—A. P. Perov. 36(4), 699–705 (Apr. 1973); CPM-7310E0849

Temperature Dependence of the Viscosity Coefficient in Type II Superconductors (E/T)—N. Ya. Fogel'. 36(4), 725–30 (Apr. 1973); CPM-7310E0875

Investigation of dissipative processes in single-crystal type II superconductors (E)—Dzh. G. Chigvinadze. 36(6), 1132–5 (Jun. 1973); CPM-7312F0468

Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. 36(6), 1155–60 (Jun. 1973); CPM-7312F0491

5.45.20.90. Other Topics in Properties of the Superconducting State

Interaction Between a Vortex and the Boundary Between Two Superconductors (T)—G. S. Mkrtchyan, F. R. Shakiryanova, E. A. Shapoval and V. V. Shmidt. 36(2), 352–3 (Feb. 1973); CPM-7307E0926

Thermal Conductivity of the Intermediate State of Superconductors (T)—V. P. Galaiko and E. V. Bezuglyi. 36(2), 377–83 (Feb. 1973); CPM-7307E0951

Effect of an Electromagnetic Field on Point Josephson Junctions under Strong Fluctuations Conditions (E)—I. M. Dmitrenko, V. I. Karamushko and L. K. Snigireva. 36(3), 514–5 (Mar. 1973); CPM-7309D0514

Oscillation effects of the "flux quantization" type in normal metals (T)—É. N. Bogachev and G. A. Gogadze. 36(5), 973–7 (May 1973); CPM-7311E0715

5.45.40. Superconducting Materials

Field Ion Microscopic Study of the Microstructure of Superconducting Deformable Niobium Alloys (E)—R. I. Garber, B. G. Lazarev, L. S. Lazareva, I. M. Mikhailovskii and N. N. Sidorenko. 36(4), 718–20 (Apr. 1973); CPM-7310E0868

Temperature Dependence of the Viscosity Coefficient in Type II Superconductors (E/T)—N. Ya. Fogel'. 36(4), 725–30 (Apr. 1973); CPM-7310E0875

Investigation of dissipative processes in single-crystal type II superconductors (E)—Dzh. G. Chigvinadze. 36(6), 1132–5 (Jun. 1973); CPM-7312F0468

5.45.90. Other Topics in Superconducting Phenomena

The Superconductor–Excitonic Dielectric Phase Transition in a Semimetal (T)—A. G. Aronov and É. B. Sonin. 36(3), 556–60 (Mar. 1973); CPM-7309D0556

Oscillation effects of the "flux quantization" type in normal metals (T)—É. N. Bogachev and G. A. Gogadze. 36(5), 973–7 (May 1973); CPM-7311E0715

5.50. MAGNETIC PROPERTIES OF SOLIDS

5.50.30. Diamagnetism and Paramagnetism of Metals

Doppler–Shifted Spin Resonance in the Electron Fluid of Metals (T)—G. B. Teitelbaum. 36(1), 176–81 (Jan. 1973); CPM-7305D0710

Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcongenide Spinel CdCr_2S_4 (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. 36(4), 697–8 (Apr. 1973); CPM-7310E0847

Nature of Magnetic Anisotropy of Dysprosium. Paramagnetic Susceptibility of Dysprosium-Gadolinium Alloys (E)—R. Z. Levitin, T. M. Perekalina, L. P. Shlyakhina, O. D. Chistyakov and V. L. Yakovenko. 36(4), 742-6 (Apr. 1973); CPM-7310E0892

5.50.40. Bulk Homogeneous Ferro-, Ferri-, and Antiferromagnetism

5.50.40.40. Spin Waves

Resonance Phenomena in a Parametric Spin Wave System (E/T)—V. V. Zautkin, V. S. L'vov and S. S. Starobinets. 36(1), 96-9 (Jan. 1973); CPM-7305D0630

Spin-Wave Relaxation in Antiferromagnets (T)—V. A. Kolganov. 36(1), 182-7 (Jan. 1973); CPM-7305D0716

Temperature Magnetoacoustic Resonance in Crystals with an Antiferro-ferromagnetic Transition (E/T)—I. A. Akhiezer, A. É. Ginzburg, L. N. Davydov and Z. A. Spol'nik. 36(4), 765-6 (Apr. 1973); CPM-7310E0915

Hard excitation of magnons in parallel pumping in an antiferromagnetic substance (E)—V. I. Ozhogin and A. Yu. Yakubovskii. 36(6), 1138-9 (Jun. 1973); CPM-7312F0474

Parametric excitation of spin waves in ferromagnetic $MnCO_3$ (E)—V. V. Kveder, B. Ya. Kotyuzhanskii and L. A. Prozorova. 36(6), 1165-9 (Jun. 1973); CPM-7312F0501

5.50.40.50. Exchange and Superexchange Interactions

The Mössbauer Effect in Face-Centered Cubic Lattices of Iron-Nickel Alloys (E/T)—A. Z. Menshikov and E. E. Yurchikov. 36(1), 100-4 (Jan. 1973); CPM-7305D0634

Mössbauer Effect in Antiferromagnetic Substances with Garnet Structures (E/T)—A. P. Dodokin, I. S. Lyubutin, B. V. Mill' and V. P. Peshkov. 36(3), 526-30 (Mar. 1973); CPM-7309D0526

Exchange Interactions and Canted Spin Configurations in $MnFe_{2-x}Cr_xO_4$ (E)—T. V. Dmitrieva, I. S. Lyubutin, B. I. Pokrovskii and N. D. Bondareva. 36(4), 709-13 (Apr. 1973); CPM-7310E0859

Linear Nonuniform Spin Chain in a Transverse Magnetic Field (T)—R. O. Zaitsev. 36(4), 789-92 (Apr. 1973); CPM-7310E0939

Effect of short-range magnetic order on the temperature dependence of the copper tungstate EPR line width (E)—A. G. Anders and A. I. Zvyagin. 36(6), 1151-4 (Jun. 1973); CPM-7312F0487

Exchange interactions and spin noncollinearity in hexagonal ferrites (E)—M. P. Petrov and A. V. Kunevich. 36(6), 1184-8 (Jun. 1973); CPM-7312F0520

5.50.40.65. Magnetic Structures

Exchange Interactions and Canted Spin Configurations in $MnFe_{2-x}Cr_xO_4$ (E)—T. V. Dmitrieva, I. S. Lyubutin, B. I. Pokrovskii and N. D. Bondareva. 36(4), 709-13 (Apr. 1973); CPM-7310E0859

5.50.40.70. Magnetic Ordering, Saturation Moments and Magnetic Susceptibility

The Mössbauer Effect in Face-Centered Cubic Lattices of Iron-Nickel Alloys (E/T)—A. Z. Menshikov and E. E. Yurchikov. 36(1), 100-4 (Jan. 1973); CPM-7305D0634

Investigation of the Antiferro-Ferromagnetism Transition in an FeRh Alloy in a Pulsed Magnetic Field up to 300 kOe (E)—B. K. Ponomarev. 36(1), 105-7 (Jan. 1973); CPM-7305D0639

Ferromagnetic Resonance in Bulky γ -Fe-Ni Alloys (E)—V. S. Pokatilov and I. M. Puzei. 36(1), 108-11 (Jan. 1973); CPM-7305D0642

Nonlinear Response of a Ferromagnet to the Switching on of a Constant Field (T)—V. M. Tsukernik and R. P. Yankelevich. 36(2), 384-6 (Feb. 1973); CPM-7307E0958

Mössbauer Effect in Antiferromagnetic Substances with Garnet Structures (E/T)—A. P. Dodokin, I. S. Lyubutin, B. V. Mill' and V. P. Peshkov. 36(3), 526-30 (Mar. 1973); CPM-7309D0526

Linear Nonuniform Spin Chain in a Transverse Magnetic Field (T)—R. O. Zaitsev. 36(4), 789-92 (Apr. 1973); CPM-7310E0939

Excitations in the one-dimensional Hubbard model (T)—G. V. Uimin and S. V. Fomichev. 36(5), 1001-6 (May 1973); CPM-7311E0743

Effect of short-range magnetic order on the temperature dependence of the copper tungstate EPR line width (E)—A. G. Anders and A. I. Zvyagin. 36(6), 1151-4 (Jun. 1973); CPM-7312F0487

Exchange interactions and spin noncollinearity in hexagonal ferrites (E)—M. P. Petrov and A. V. Kunevich. 36(6), 1184-8 (Jun. 1973); CPM-7312F0520

5.50.40.75. Anisotropy Effects

Magnetic Anisotropy of Nickel (T/E)—E. I. Kondorskii and E. Straube. 36(1), 188-93 (Jan. 1973); CPM-7305D0722

5.50.40.85. Domain Effects, Aftereffect and Hysteresis

Submillimeter Intrinsic Domain-Wall Resonance in Orthoferrites (E)—G. A. Kraftmakher, V. V. Meriakri, A. Ya. Chervonenkis and V. I. Shcheglov. 36(4), 714-7 (Apr. 1973); CPM-7310E0864

Neutron refraction at individual domain boundaries in a ferromagnet (T)—S. Sh. Shil'shtein, V. A. Somenkov and M. Kalanov. 36(6), 1170-3 (Jun. 1973); CPM-7312F0506

5.50.40.90. Other Topics in Ferromagnetism, etc.

Effect of Radio-Frequency Magnetic Reversal on the γ -Resonance Spectra of Ferromagnets (T/E)—Yu. V. Baldokhin, S. A. Borshch, L. M. Klinger and V. A. Povitskii. 36(2), 374-6 (Feb. 1973); CPM-7307E0948

5.50.70. Magnetic Transitions

5.50.70.30. Ferromagnetic-Antiferromagnetic Transitions

Investigation of the Antiferro-Ferromagnetism Transition in an FeRh Alloy in a Pulsed Magnetic Field up to 300 kOe (E)—B. K. Ponomarev. 36(1), 105-7 (Jan. 1973); CPM-7305D0639

Temperature Magnetoacoustic Resonance in Crystals with an Antiferro-ferromagnetic Transition (E/T)—I. A. Akhiezer, A. É. Ginzburg, L. N. Davydov and Z. A. Spol'nik. 36(4), 765-6 (Apr. 1973); CPM-7310E0915

Transitions due to spin reorientation in a $Ho_{0.5}Dy_{0.5}FeO_3$ single crystal (E)—K. P. Belov, A. M. Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchi and A. Ya. Chervonenkis. 36(6), 1136-7 (Jun. 1973); CPM-7312F0472

5.50.70.40. Paramagnetic-Antiferromagnetic Transitions

Phase Transition in Samarium (E)—A. S. Bulatov and V. A. Finkel'. 36(1), 112-3 (Jan. 1973); CPM-7305D0646

Mössbauer Effect in Antiferromagnetic Substances with Garnet Structures (E/T)—A. P. Dodokin, I. S. Lyubutin, B. V. Mill' and V. P. Peshkov. 36(3), 526-30 (Mar. 1973); CPM-7309D0526

Electric and Magnetic Hyperfine Interactions of Fe^{57} Nuclei in a $Fe^{2+}Al_2Si_3O_{12}$ Crystal near the Neel Point (E/T)—A. P. Dodokin, I. S. Lyubutin, L. M. Belyaev and V. P. Peshkov. 36(4), 738-41 (Apr. 1973); CPM-7310E0888

5.50.85. Magnetothermal Effects, Including de Haas-van Alphen

Influence of Dislocations on the de Haas-van Alphen Effect (T)—A. I. Gutnikov and E. P. Fei'dman. 36(3), 553-5 (Mar. 1973); CPM-7309D0553

5.55. MAGNETIC RESONANCE AND RELAXATION

5.55.20. Paramagnetic Resonances (e.g. EPR, ESR) and Relaxation

5.55.20.10. General Theory and Measurement Techniques

Theory of Magnetoacoustic Resonance (T)—E. K. Khener. 36(1), 137-41 (Jan. 1973); CPM-7305D0671

Strong saturation of inhomogeneously broadened lines (T)—L. L. Buishvili, M. D. Zviadadze and G. R. Khutishvili. 36(5), 933-8 (May 1973); CPM-7311E0675

Effect of spin dipole-dipole interaction on phase relaxation in magnetically dilute solid bodies (T)—A. D. Milov, K. M. Salikhov and Yu. D. Tsvetkov. 36(6), 1229-32 (Jun. 1973); CPM-7312F0565

5.55.20.90. Other Topics in Paramagnetic Resonances

Effect of short-range magnetic order on the temperature dependence of the copper tungstate EPR line width (E)—A. G. Anders and A. I. Zvyagin. 36(6), 1151–4 (Jun. 1973); CPM-7312F0487
Effect of spin dipole–dipole interaction on phase relaxation in magnetically dilute solid bodies (T)—A. D. Milov, K. M. Salikhov and Yu. D. Tsvetkov. 36(6), 1229–32 (Jun. 1973); CPM-7312F0565

5.55.30. Ferromagnetic, Ferrimagnetic, and Antiferromagnetic Resonances and Relaxation and Spin-Wave Spectra

Resonance Phenomena in a Parametric Spin Wave System (E/T)—V. V. Zautkin, V. S. L'vov and S. S. Starobinets. 36(1), 96–9 (Jan. 1973); CPM-7305D0630
Ferromagnetic Resonance in Bulky γ -Fe–Ni Alloys (E)—V. S. Pokatilov and I. M. Puzei. 36(1), 108–11 (Jan. 1973); CPM-7305D0642
Nonlinear Response of a Ferromagnet to the Switching on of a Constant Field (T)—V. M. Tsukernik and R. P. Yankelevich. 36(2), 384–6 (Feb. 1973); CPM-7307E0958
Antiferromagnetic Resonance in MnO (E)—V. S. Mandel', V. D. Voronkov and D. E. Gromzin. 36(3), 521–5 (Mar. 1973); CPM-7309D0521
Ferrimagnetic Echo in the Subsidiary Absorption Region (T)—Ya. Ya. Asadullin. 36(4), 797–8 (Apr. 1973); CPM-7310E0947

5.55.60. Diamagnetic and Cyclotron Resonances and Relaxation

The Spectrum and Excitation of Electromagnetic Waves in Bismuth in the Region of Hole Cyclotron Resonances (E/T)—V. P. Naberezhnikh, D. E. Zherebchevskii and V. L. Mel'nik. 36(1), 89–95 (Jan. 1973); CPM-7305D0623
Doppler Shifted Cyclotron Resonance in Cadmium (E/T)—O. V. Konstantinov, V. G. Skobov, V. V. Lavrova, L. M. Fisher and V. A. Yudin. 36(1), 118–26 (Jan. 1973); CPM-7305D0652
Cyclotron resonance in specular reflection of electrons from the surface of a metal (T)—D. E. Zherebchevskii and È. A. Kaner. 36(5), 983–9 (May 1973); CPM-7311E0725

5.55.90. Other Topics in Magnetic Resonance and Relaxation Phenomena

Manifestation of the Frequency Migration Mechanism in Decay of Echo Signals (T)—A. B. Doktorov and A. I. Burshtein. 36(3), 411–7 (Mar. 1973); CPM-7309D0411
Role of dipole–dipole interactions in acoustic saturation of nuclear spin levels in crystals (E/T)—G. L. Antokolskii, L. N. Fershtat, E. V. Charnaya and V. A. Shutilov. 36(5), 909–12 (May 1973); CPM-7311E0651
Low-frequency magnetoelectric resonances in BaMnF_4 (E)—B. I. Al'shin, D. N. Astrov and R. V. Zorin. 36(6), 1161–4 (Jun. 1973); CPM-7312F0497
Exchange interactions and spin noncollinearity in hexagonal ferrites (E)—M. P. Petrov and A. V. Kunevich. 36(6), 1184–8 (Jun. 1973); CPM-7312F0520

5.60. OPTICAL PROPERTIES OF SOLIDS

Investigation of the Statistical Properties of Ultrashort Light Pulses by Two-Photon Absorption in Semiconductors (T)—V. V. Arsen'ev, V. S. Dneprovskii, D. N. Klyshko, V. S. Fokin and V. U. Khattatov. 36(3), 407–10 (Mar. 1973); CPM-7309D0407
Optical Constants and Electronic Characteristics of Titanium (E)—I. D. Mash and G. P. Motulevich. 36(3), 516–20 (Mar. 1973); CPM-7309D0516
Electron–Hole Drops in Uniaxial–Deformed Germanium (E/T)—A. S. Alekseev, V. S. Bagaev and T. I. Galkina. 36(3), 536–40 (Mar. 1973); CPM-7309D0536
Investigation of the Molecular Scattering of Light in a Sapphire Crystal (E)—I. L. Chisty, V. F. Kitaeva, N. N. Sobolev and V. P. Bakhar. 36(4), 783–8 (Apr. 1973); CPM-7310E0933
Nature of the photoplastic effect (T/E)—Yu. A. Osip'yan and V. F. Petrenko. 36(5), 916–20 (May 1973); CPM-7311E0658

New type of magnetically sensitive fluorescence produced by excitation of tetracene on the surface of an anthracene crystal (E)—E. L. Frankevich and B. M. Rumyantsev. 36(6), 1064–8 (Jun. 1973); CPM-7312F0400

5.70. PASSAGE OF PARTICLES AND RADIATION THROUGH SOLIDS

5.70.30. Mössbauer Effect

The Mössbauer Effect in Face-Centered Cubic Lattices of Iron–Nickel Alloys (E/T)—A. Z. Menshikov and E. E. Yurchikov. 36(1), 100–4 (Jan. 1973); CPM-7305D0634

Effect of Radio-Frequency Magnetic Reversals on the γ -Resonance Spectra of Ferromagnets (T/E)—Yu. V. Baldokhin, S. A. Borshch, L. M. Klinger and V. A. Povitskii. 36(2), 374–6 (Feb. 1973); CPM-7307E0948

Mössbauer Effect in Antiferromagnetic Substances with Garnet Structures (E/T)—A. P. Dodokin, I. S. Lyubutin, B. V. Mill' and V. P. Peshkov. 36(3), 526–30 (Mar. 1973); CPM-7309D0526

Exchange Interactions and Canted Spin Configurations in $\text{MnFe}_{2-x}\text{Cr}_x\text{O}_4$ (E)—T. V. Dmitrieva, I. S. Lyubutin, B. I. Pokrovskii and N. D. Bondareva. 36(4), 709–13 (Apr. 1973); CPM-7310E0859

Energy Analysis of Resonance γ Rays Diffracted by an α - Fe^{57}O_3 Single Crystal (E/T)—A. N. Artem'ev, V. V. Sklyarevskii, G. V. Smirnov and E. P. Stepanov. 36(4), 736–7 (Apr. 1973); CPM-7310E0886

Electric and Magnetic Hyperfine Interactions of Fe^{57} Nuclei in a $\text{Fe}^{2+}_{2-x}\text{Al}_2\text{Si}_2\text{O}_{12}$ Crystal near the Neel Point (E/T)—A. P. Dodokin, I. S. Lyubutin, L. M. Belyaev and V. P. Peshkov. 36(4), 738–41 (Apr. 1973); CPM-7310E0888

Mössbauer-spectroscopy investigation of the properties of thin oxide films (E)—I. P. Suzdalev and A. P. Amulyavichus. 36(5), 929–32 (May 1973); CPM-7311E0671

5.70.50. Electrons and Positrons

Bremsstrahlung Spectrum of Ultrarelativistic Electrons in a Dense Medium (T)—A. A. Varfolomeev, V. A. Bazylev and N. K. Zhevago. 36(3), 430–5 (Mar. 1973); CPM-7309D0430

Relaxation of fast electrons in gases and semiconductors (T)—R. I. Lyagushchenko. 36(5), 901–5 (May 1973); CPM-7311E0643

Some features of the Auger electron spectrum in the interaction between oxygen and the (111) surface of GaP (E)—A. Yu. Mityagin, V. P. Orlov, K. A. Khronopulo and N. Ya. Cherevatskii. 36(5), 906–8 (May 1973); CPM-7311E0648

Experimental investigation of scattering of electrons by dislocations in copper (E)—V. F. Gantmakher, V. A. Gasparov, G. I. Kulesko and V. N. Matveev. 36(5), 925–8 (May 1973); CPM-7311E0667

5.70.60. Ion, Molecule and Heavy-Particle Bombardment

Field-Ion-Microscopic Study of Interstitial Plasticity of Tungsten Microcrystals (E/T)—I. M. Mikhailovskii and Zh. I. Dranova. 36(2), 300–3 (Feb. 1973); CPM-7307E0874

Theory of the Shadow Effect (T)—G. M. Filippov, N. G. Vodyanov and V. I. Korneev. 36(3), 404–6 (Mar. 1973); CPM-7309D0404

Elastic Scattering of Fast Charged Particles in a Single Crystal (T)—N. P. Kalashnikov, È. A. Koptelov and M. I. Ryazanov. 36(3), 583–7 (Mar. 1973); CPM-7309D0583

Lateral Spots of X-Ray Transition Radiation in Crystals and their Effect on the Central Spot (T)—G. M. Garibyan and C. Yang. 36(4), 631–7 (Apr. 1973); CPM-7310E0781

Ionization loss of heavy nonrelativistic particles in matter (E/T)—V. S. Remizovich. 36(5), 847–51 (May 1973); CPM-7311E0589

Phenomenological theory of depolarization of μ^+ mesons in magnetic media (T)—I. G. Ivanter. 36(5), 990–4 (May 1973); CPM-7311E0732

5.70.90. Other Particle Phenomena in Solids

The Role of Absorbing Impurities in Laser-Induced Damage of Transparent Dielectrics (T/E)—Yu. K. Danileiko, A. A. Manenkov, V. S. Nechitailo, A. M. Prokhorov and V. Ya. Khaimov-Mal'kov. 36(3), 541–3 (Mar. 1973); CPM-7309D0541

Multiple Scattering of Channeled Particles (T/E)—V. A. Ryabov. 36(3), 577–82 (Mar. 1973); CPM-7309D0577

Elastic Scattering of Fast Charged Particles in a Single Crystal (T)—N. P. Kalashnikov, É. A. Koptelov and M. I. Ryazanov. 36(3), 583–7 (Mar. 1973); CPM-7309D0583

Lateral Spots of X-Ray Transition Radiation in Crystals and their Effect on the Central Spot (T)—G. M. Garibyan and C. Yang. 36(4), 631–7 (Apr. 1973); CPM-7310E0781

Ionization loss of heavy nonrelativistic particles in matter (E/T)—V. S. Remizovich. 36(5), 847–51 (May 1973); CPM-7311E0589

Dynamic effect on passage of a charged particle beam through solid bodies (T)—I. A. Akhiezer and V. T. Lazurik-El'tsufin. 36(5), 939–40 (May 1973); CPM-7311E0681

Neutron refraction at individual domain boundaries in a ferromagnet (T)—S. Sh. Shil'shtein, V. A. Somenkov and M. Kalanov. 36(6), 1170–3 (Jun. 1973); CPM-7312F0506

5.80. PHYSICS OF SURFACES, THIN FILMS, INTERFACES AND SMALL PARTICLES

5.80.25. Impact Phenomena of Surfaces

5.80.25.20. Laser Impact Phenomena

Evaporation of Metallic Targets Caused by Intense Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(2), 311–22 (Feb. 1973); CPM-7307E0885

The Role of Absorbing Impurities in Laser-Induced Damage of Transparent Dielectrics (T/E)—Yu. K. Danileiko, A. A. Manenkov, V. S. Nechitailo, A. M. Prokhorov and V. Ya. Khaimov-Mal'kov. 36(3), 541–3 (Mar. 1973); CPM-7309D0541

Gas-Dynamic Structures of a Plasma Flare Produced During the Evaporation of Metals by High-Intensity Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(4), 654–8 (Apr. 1973); CPM-7310E0804

Investigation of the Molecular Scattering of Light in a Sapphire Crystal (E)—I. L. Chisty, V. F. Kitaeva, N. N. Sobolev and V. P. Bakhar. 36(4), 783–8 (Apr. 1973); CPM-7310E0933

5.80.25.90. Other Impact Phenomena of Surfaces, etc.

Scattering of Protons in a Thin Gold Single Crystal (E)—Yu. N. Zhukova, G. A. Iferov, A. F. Tulinov and V. Ya. Chumanov. 36(1), 114–7 (Jan. 1973); CPM-7305D0648

Emission of Light by Metals Bombarded by Nonrelativistic Electrons (E)—F. R. Arutyunyan, A. Kh. Mkhitarian, R. A. Oganesyan, B. O. Rostomyan and E. K. Khanikyants. 36(4), 607–10 (Apr. 1973); CPM-7310E0757

Some features of the Auger electron spectrum in the interaction between oxygen and the (111) surface of GaP (E)—A. Yu. Mityagin, V. P. Orlov, K. A. Khranopulo and N. Ya. Cherevatskii. 36(5), 906–8 (May 1973); CPM-7311E0648

5.80.40. Transport Properties and Phenomena of Surfaces, etc.

Galvanomagnetic Properties of Antimony at Low Temperatures. Size Effect, Role of Surface, and Shape Effects (E/T)—Yu. A. Bogod and V. B. Krasovitskii. 36(3), 544–9 (Mar. 1973); CPM-7309D0544

Quantum Landau Oscillations in MoO_2 and WO_2 (E)—E. P. Vol'skii and V. M. Teplinskii. 36(3), 550–2 (Mar. 1973); CPM-7309D0550

Impedance of Tin in a Strong Magnetic Field and Scattering of Conductivity Electrons by the Metal Surface (E)—A. P. Perov. 36(4), 699–705 (Apr. 1973); CPM-7310E0849

Electric and structural properties of low temperature bismuth films (E)—Yu. F. Komik, B. I. Belevtsev and L. A. Yatsuk. 36(6), 1177–83 (Jun. 1973); CPM-7312F0513

5.80.45. Contacts, Junctions, Sandwiches and Interfaces

5.80.45.40. Tunneling

Effect of Lattice Oscillations on the Tunnel Current in Normal Metals (T)—Yu. M. Ivanchenko and Yu. V. Medvedev. 36(1), 142–6 (Jan. 1973); CPM-7305D0676

Quantum and Classical Motion of Dislocations in a Peierls Potential Relief (T)—B. V. Petukhov and V. L. Pokrovskii. 36(2), 336–42 (Feb. 1973); CPM-7307E0910

Zero Anomalies in the Resistance of a Tunnel Junction Containing Metallic Inclusions in the Oxide Layer (T/E)—R. I. Shekhter. 36(4), 747–50 (Apr. 1973); CPM-7310E0897

5.80.45.80. Superconducting Tunnel and Weak-Link Junctions

Interaction Between a Vortex and the Boundary Between Two Superconductors (T)—G. S. Mkrtchyan, F. R. Shakiryanova, E. A. Shapoval and V. V. Shmidt. 36(2), 352–3 (Feb. 1973); CPM-7307E0926

Effect of an Electromagnetic Field on Point Josephson Junctions under Strong Fluctuations Conditions (E)—I. M. Dmitrenko, V. I. Karamushko and L. K. Snigireva. 36(3), 514–5 (Mar. 1973); CPM-7309D0514

Investigation of Tunnel Characteristics of Sputtered Superconducting Nb_3Sn Films (E)—S. I. Vedeneev, A. I. Golovashkin, I. S. Levchenko and G. P. Motulevich. 36(3), 531–5 (Mar. 1973); CPM-7309D0531

The tunneling of excitations from a superconductor and the increase of T_c (T/E)—A. G. Aronov and V. L. Gurevich. 36(5), 957–63 (May 1973); CPM-7311E0699

5.80.45.90. Other Topics in Contacts, etc.

The Nonlinearity Mechanism of the Volt-Ampere Characteristics of Point Junctions (T/E)—N. I. Bogatina and I. K. Yanson. 36(4), 692–6 (Apr. 1973); CPM-7310E0842

Surface excitons and electrostatic image forces at the metal-dielectric boundary with allowance for field penetration into the metal (T)—V. M. Agranovich, A. G. Malshukov and M. A. Mekhtiev. 36(6), 1203–9 (Jun. 1973); CPM-7312F0539

5.80.65. Magnetic Properties of Thin Films, etc.

Resonance Width on Magnetic Surface Levels (T)—A. V. Vilenkin, É. A. Kaner and I. M. Fuks. 36(1), 166–72 (Jan. 1973); CPM-7305D0700

Submillimeter Intrinsic Domain-Wall Resonance in Orthoferrites (E)—G. A. Kraftmakher, V. V. Meriakri, A. Ya. Chervonenkis and V. I. Shcheglov. 36(4), 714–7 (Apr. 1973); CPM-7310E0864

Mössbauer-spectroscopy investigation of the properties of thin oxide films (E)—I. P. Suzdalev and A. P. Amulyavichus. 36(5), 929–32 (May 1973); CPM-7311E0671

5.80.90. Other Topics in Physics of Surfaces, etc.

Existence of an Equilibrium Disperse Phase Containing Metallic Particles (T)—M. A. Krivoglaz. 36(2), 354–60 (Feb. 1973); CPM-7307E0928

Theory of the Kapitza Temperature Discontinuity at a Solid Body-Liquid Helium Boundary (T)—I. M. Khalantnikov and I. N. Ademenko. 36(3), 391–4 (Mar. 1973); CPM-7309D0391

Localized Electron States in Thin Layers due to Geometric Defects of the Surface (T)—É. M. Baskin, A. V. Chaplik and M. V. Entin. 36(3), 566–9 (Mar. 1973); CPM-7309D0566

Emission of Light by Metals Bombarded by Nonrelativistic Electrons (E)—F. R. Arutyunyan, A. Kh. Mkhitarian, R. A. Oganesyan, B. O. Rostomyan and E. K. Khanikyants. 36(4), 607–10 (Apr. 1973); CPM-7310E0757

Zero Anomalies in the Resistance of a Tunnel Junction Containing Metallic Inclusions in the Oxide Layer (T/E)—R. I. Shekhter. 36(4), 747–50 (Apr. 1973); CPM-7310E0897

Calculation of Intermolecular Interaction Forces between Bodies Separated by a Film of a Strong Electrolyte Solution (T)—V. N. Gorelkin and V. P. Smilga. **36**(4), 761–4 (Apr. 1973); CPM-7310E0911

Investigation of the Molecular Scattering of Light in a Sapphire Crystal (E)—I. L. Chistyj, V. F. Kitaeva, N. N. Sobolev and V. P. Bakhar. **36**(4), 783–8 (Apr. 1973); CPM-7310E0933

Effect of adsorption on electron emission from metals (E)—A. M. Brodskii, Yu. Ya. Gurevich and S. V. Sherberstov. **36**(5), 948–56 (May 1973); CPM-7311E0690

New type of magnetically sensitive fluorescence produced by excitation of tetracene on the surface of an anthracene crystal (E)—E. L. Frankevich and B. M. Rumyantsev. **36**(6), 1064–8 (Jun. 1973); CPM-7312F0400

Electric and structural properties of low temperature bismuth films (E)—Yu. F. Komik, B. I. Belevtsev and L. A. Yatsuk. **36**(6), 1177–83 (Jun. 1973); CPM-7312F0513

5.90. SOLID STATE DEVICES

A new particle detector—the crystal filament counter (E)—A. F. Pisarev, V. F. Pisarev and G. S. Revenko. **36**(5), 828–34 (May 1973); CPM-7311E0570

6.20. ELECTROMAGNETIC TECHNOLOGICAL APPLICATIONS

Space-Charge Limited Current of an Uncompensated Relativistic Electron Beam (E)—G. P. Mkheidze, V. I. Pulin, M. D. Raizer and L. É. Tsopp. **36**(1), 54–5 (Jan. 1973); CPM-7305D0588

Structure of Three-Component Vector Fields in Self-Focusing Waveguides (T)—V. M. Eleonskii, L. G. Oganes'Yants and V. P. Silin. **36**(2), 282–5 (Feb. 1973); CPM-7307E0856

Field-Ion-Microscopic Study of Interstitial Plasticity of Tungsten Microcrystals (E/T)—I. M. Mikhailovskii and Zh. I. Dranova. **36**(2), 300–3 (Feb. 1973); CPM-7307E0874

Field Ion Microscopic Study of the Microstructure of Superconducting Deformable Niobium Alloys (E)—R. I. Garber, B. G. Lazarev, L. S. Lazareva, I. M. Mikhailovskii and N. N. Sidorenko. **36**(4), 718–20 (Apr. 1973); CPM-7310E0868

6.30. OPTICS

6.30.45. Quantum Optics

Theory of Multi-Pulsed Excitation of Signals of the Light-Echo Type (T)—G. M. Ershov and U. Kh. Kopvillem. **36**(1), 147–52 (Jan. 1973); CPM-7305D0681

Excited Molecules in a Medium with Negative Permittivity (T)—V. P. Bykov. **36**(4), 646–50 (Apr. 1973); CPM-7310E0796

Number operator for photons traversing a spatial point (T)—V. I. Tatarskii. **36**(6), 1097–8 (Jun. 1973); CPM-7312F0433

Collective effects in spontaneous emission by two atoms (T)—D. F. Smirnov, I. V. Sokolov and E. D. Trifonov. **36**(6), 1111–4 (Jun. 1973); CPM-7312F0447

6.30.50. Lasers and Masers

6.30.50.10. General Theory and Experiments on Laser and Maser Action

Kinetics of the Generation Spectrum of a Photodissociation Iodine Laser (T/E)—V. A. Alekseev, T. L. Andreeva, V. N. Volkov and E. A. Yukov. **36**(2), 238–42 (Feb. 1973); CPM-7307E0812

Second-Harmonic Generation in an Inhomogeneous Laser Plasma (T)—A. V. Vinogradov and V. V. Pustovalov. **36**(3), 492–7 (Mar. 1973); CPM-7309D0492

Kinetics of a Pulsed Chemical Carbon Monoxide Laser with Photoinitiated Oxidation of Carbon Disulfide (E/T)—E. B. Gordon, V. S. Pavlenko, Yu. L. Moskvin, M. S. Drozdov, P. S. Vinogradov and V. L. Tal'roze. **36**(4), 611–8 (Apr. 1973); CPM-7310E0761

Fluctuations of the Radiation Rise Time in a Gas Laser with Nonlinear Resonant Absorption (E/T)—V. P. Makhnev and G. G. Telegin. **36**(4), 638–42 (Apr. 1973); CPM-7310E0788

Excited Molecules in a Medium with Negative Permittivity (T)—V. P. Bykov. **36**(4), 646–50 (Apr. 1973); CPM-7310E0796

Pulsations of the radiation from a laser with frequency dispersion (T)—N. N. Rozanov. **36**(6), 1074–9 (Jun. 1973); CPM-7312F0410

Effect of combination coupling on the spectral and statistical properties of multimode fluctuations in a traveling-wave laser (T/E)—Yu. M. Golubev and E. E. Fradkin. **36**(6), 1099–104 (Jun. 1973); CPM-7312F0435

The problem of laser radiation sources in the far ultraviolet and x-ray regions (T)—A. V. Vinogradov and I. I. Sobel'man. **36**(6), 1115–9 (Jun. 1973); CPM-7312F0451

6.30.50.20. Gas and Ion Lasers and Masers

Stimulated Emission Evoked by Pumping with a Pulsed Electron Beam Produced in a Linear Discharge (E)—V. G. Averin, A. I. Karchevskii and G. V. Yurkin. **36**(1), 44–7 (Jan. 1973); CPM-7305D0578

Kinetics of the Generation Spectrum of a Photodissociation Iodine Laser (T/E)—V. A. Alekseev, T. L. Andreeva, V. N. Volkov and E. A. Yukov. **36**(2), 238–42 (Feb. 1973); CPM-7307E0812

Kinetics of a Pulsed Chemical Carbon Monoxide Laser with Photoinitiated Oxidation of Carbon Disulfide (E/T)—E. B. Gordon, V. S. Pavlenko, Yu. L. Moskvin, M. S. Drozdov, P. S. Vinogradov and V. L. Tal'roze. **36**(4), 611–8 (Apr. 1973); CPM-7310E0761

Fluctuations of the Radiation Rise Time in a Gas Laser with Nonlinear Resonant Absorption (E/T)—V. P. Makhnev and G. G. Telegin. **36**(4), 638–42 (Apr. 1973); CPM-7310E0788

Nuclear pumping in molecular gas lasers (T)—V. M. Andriyakhin, V. V. Vasil'tsov, S. S. Krasil'nikov and V. D. Pis'mennyi. **36**(5), 865–9 (May 1973); CPM-7311E0607

Luminescence of a molecular gas under the action of CO₂ laser pulses (E)—V. S. Letokhov, E. A. Ryabov and O. A. Tumanov. **36**(6), 1069–73 (Jun. 1973); CPM-7312F0405

6.30.50.40. Solid Lasers and Masers, Including Semiconducting and Glass

Investigation of the Statistical Properties of Ultrashort Light Pulses by Two-Photon Absorption in Semiconductors (T)—V. V. Arsen'ev, V. S. Dneprovskii, D. N. Klyshko, V. S. Fokin and V. U. Khattatov. **36**(3), 407–10 (Mar. 1973); CPM-7309D0407

6.30.50.55. Laser and Maser Applications

Photon Echo in the Molecular Gases BCl₃ and SF₆ (E/T)—S. S. Alimpiev and N. V. Karlov. **36**(2), 255–9 (Feb. 1973); CPM-7307E0829

Acceleration of atoms by a resonance field (E/T)—A. P. Kazantsev. **36**(5), 861–4 (May 1973); CPM-7311E0603

Optical breakdown of compressed gases by CO₂ laser radiation (E)—N. G. Basov, E. M. Belenov, V. A. Danil'ychev, O. M. Kerimov and I. B. Kovsh. **36**(6), 1061–3 (Jun. 1973); CPM-7312F0397

Kinetics of excitation of molecular vibrations by infrared laser radiation (T)—V. S. Letokhov and A. A. Makarov. **36**(6), 1091–6 (Jun. 1973); CPM-7312F0427

6.30.60. Nonlinear Optics

6.30.60.10. General

Photon Echo in the Molecular Gases BCl₃ and SF₆ (E/T)—S. S. Alimpiev and N. V. Karlov. **36**(2), 255–9 (Feb. 1973); CPM-7307E0829

Structure of Three-Component Vector Fields in Self-Focusing Waveguides (T)—V. M. Eleonskii, L. G. Oganes'Yants and V. P. Silin. **36**(2), 282–5 (Feb. 1973); CPM-7307E0856

Excited Molecules in a Medium with Negative Permittivity (T)—V. P. Bykov. **36**(4), 646–50 (Apr. 1973); CPM-7310E0796

6.30.60.20. Stimulated Raman, Parametric Oscillations, etc.

Stimulated Entropy (Temperature) Scattering and its Affect on Stimulated Mandel'shtam-Brillouin Scattering (E/T)—Yu. I. Kyzylasov, V. S. Starunov and I. L. Fabelinskii. **36**(2), 216–22 (Feb. 1973); CPM-7307E0790

Energy and Time Characteristics of Stimulated Raman Scattering of Light in Disperse Medium at Various Temperatures (E/T)—G. V. Peregudov, E. N. Ragozin and V. A. Chirkov. **36**(2), 223–7 (Feb. 1973); CPM-7307E0797

Investigation of the Statistical Properties of Ultrashort Light Pulses by Two-Photon Absorption in Semiconductors (T)—V. V. Arsen'ev, V. S. Dneprovskii, D. N. Klyshko, V. S. Fokin and V. U. Khattatov. 36(3), 407–10 (Mar. 1973); CPM-7309D0407

Fluctuations of the Radiation Rise Time in a Gas Laser with Nonlinear Resonant Absorption (E/T)—V. P. Makhnev and G. G. Telegin. 36(4), 638–42 (Apr. 1973); CPM-7310E0788

6.30.60.90. Other Topics in Nonlinear Optics

Theory of Radiation from a System of Weakly Interacting Particles (T)—O. N. Gadomskii, V. R. Nagibarov and N. K. Solovarov. 36(3), 426–9 (Mar. 1973); CPM-7309D0426

Second-Harmonic Generation in an Inhomogeneous Laser Plasma (T)—A. V. Vinogradov and V. V. Pustovalov. 36(3), 492–7 (Mar. 1973); CPM-7309D0492

6.40. GEOPHYSICS

Nonlinear Evolution of a Quasimonochromatic Packet of Helical Waves in a Plasma (T/E)—Ya. N. Istomin and V. I. Karpman. 36(1), 69–74 (Jan. 1973); CPM-7305D0603

7.30. STELLAR ASTRONOMY

Neutrino thermal conductivity in collapsing stars (T)—V. S. Imshennik and D. K. Nadezhin. 36(5), 821–7 (May 1973); CPM-7311E0563

7.40. GALACTIC AND EXTRAGALACTIC ASTRONOMY

Effect of Scalar and Vector Fields on the Nature of the Cosmological Singularity (T)—V. A. Belinskii and I. M. Khalatnikov. 36(4), 591–7 (Apr. 1973); CPM-7310E0741

AUTHOR INDEX TO VOLUME 36

Papers are arranged in ascending page number order. The symbols after the title of the paper indicate the general emphasis of the paper: (T)—Theoretical, (E)—Experimental, (T/E)—Experimental and Theoretical, (R)—Review.

A

Abel'skii, Sh. Sh.—Matthiessen rule and high-temperature electrical resistivity of solid solutions of silicon in iron (E/T)—V. E. Zinov'ev, Sh. Sh. Abel'skii, M. I. Sandakova, L. N. Petrova and P. V. Gel'd. 36(6), 1174–6 (Jun. 1973); CPM-7312F0510

Abu-Asali, E.—Nonlinear Plasma Ion Oscillations Excited by a Current (E/T)—E. Abu-Asali, B. A. Al'Terkop and A. A. Rukhadze. 36(4), 682–5 (Apr. 1973); CPM-7310E0832

Ademenko, I. N.—Theory of the Kapitza Temperature Discontinuity at a Solid Body–Liquid Helium Boundary (T)—I. M. Khalantnikov and I. N. Ademenko. 36(3), 391–4 (Mar. 1973); CPM-7309D0391

Afanas'ev, Yu. V.—Kinetic Processes in a Laser Plasma (T)—Yu. V. Afanas'ev, É. M. Belenov, O. N. Krokhin and I. A. Poluéktov. 36(1), 64–8 (Jan. 1973); CPM-7305D0598

Afrosimov, V. V.—Inelastic Energy Loss and Ionization in Excitation of Outer and Inner Electron Shells During Atomic Collisions (E)—V. V. Afrosimov, Yu. S. Gordeev, A. M. Polyanskii and A. P. Shergin. 36(3), 418–25 (Mar. 1973); CPM-7309D0418

Agranovich, V. M.—Phenomenological Electrodynamics of Gyrotropic Media (T)—V. M. Agranovich and V. L. Ginzburg. 36(3), 440–3 (Mar. 1973); CPM-7309D0440

—Surface excitons and electrostatic image forces at the metal–dielectric boundary with allowance for field penetration into the metal (T)—V. M. Agranovich, A. G. Malshukov and M. A. Mekhtiev. 36(6), 1203–9 (Jun. 1973); CPM-7312F0539

Akhiezer, I. A.—Temperature Magnetoacoustic Resonance in Crystals with an Antiferro-ferromagnetic Transition (E/T)—I. A. Akhiezer, A. É. Ginzburg, L. N. Davydov and Z. A. Spol'nik. 36(4), 765–6 (Apr. 1973); CPM-7310E0915

—Dynamic effect on passage of a charged particle beam through solid bodies (T)—I. A. Akhiezer and V. T. Lazurik-El'tsufin. 36(5), 939–40 (May 1973); CPM-7311E0681

—Relaxation in a two-temperature plasma with directed electron motion (T)—I. A. Akhiezer and V. V. Angeleiko. 36(6), 1129–31 (Jun. 1973); CPM-7312F0465

Alekhin, A. D.—Properties of Matter at Susceptibility Extremum Points in Stationary Fields in the Vicinity of the Critical State (E/T)—A. D. Alekhin, N. P. Krupskii and A. V. Chalyi. 36(4), 751–2 (Apr. 1973); CPM-7310E0901

Aleksandrov, B. N.—Effect of Impurities on the Residual Electric Resistivity of Cadmium (E/T)—B. N. Aleksandrov and V. V. Dukin. 36(2), 343–8 (Feb. 1973); CPM-7307E0917

Alekseenko, S. A.—A New Determination of the Proton Magnetic Moment in Terms of the Nuclear Magneton to Within 4.3×10^{-5} (E)—B. A. Mamyryin, N. N. Aruev and S. A. Alekseenko. 36(1), 1–9 (Jan. 1973); CPM-7305D0535

Alekseev, A. I.—Electromagnetic Radiation in a Moving Medium (T)—A. I. Alekseev and Yu. P. Nikitin. 36(4), 629–30 (Apr. 1973); CPM-7310E0779

Alekseev, A. S.—Electron–Hole Drops in Uniaxial–Deformed Germanium (E/T)—A. S. Alekseev, V. S. Bagaev and T. I. Galkina. 36(3), 536–40 (Mar. 1973); CPM-7309D0536

Alekseev, E. S.—Estimate of the Energies of Symmetric Lattices of Non-Transition Metals by the Pseudo-Potential Method (T)—R. G. Arkhipov, E. S. Alekseev and A. F. Barabanov. 36(2), 323–6 (Feb. 1973); CPM-7307E0897

Alekseev, V. A.—Kinetics of the Generation Spectrum of a Photodissociation Iodine Laser (T/E)—V. A. Alekseev, T. L. Andreeva, V. N. Volkov and E. A. Yukov. 36(2), 238–42 (Feb. 1973); CPM-7307E0812

Alferov, V. A.—Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcongenide Spinel CdCr_2S_4 (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. 36(4), 697–8 (Apr. 1973); CPM-7310E0847

Aliev, Yu. M.—Kinetic Theory of Parametric Excitation of Surface Waves in a Semifinite Plasma (T)—Yu. M. Aliev, O. M. Gradov and A. Yu. Kirii. 36(1), 59–63 (Jan. 1973); CPM-7305D0593

—Contribution to the Theory of Parametric Resonance in an Inhomogeneous Plasma (T)—Yu. M. Aliev, O. M. Gradov and A. Yu. Kirii. 36(4), 663–8 (Apr. 1973); CPM-7310E0813

Alimpiev, S. S.—Photon Echo in the Molecular Gases BCl_3 and SF_6 (E/T)—S. S. Alimpiev and N. V. Karlov. 36(2), 255–9 (Feb. 1973); CPM-7307E0829

Al'shin, B. I.—Low-frequency magnetoelectric resonances in BaMnF_4 (E)—B. I. Al'shin, D. N. Astrov and R. V. Zorin. 36(6), 1161–4 (Jun. 1973); CPM-7312F0497

Al'shitz, V. I.—Phonon component of dynamic dragging of dislocations (T)—V. I. Al'shitz and A. G. Mal'shukov. 36(5), 978–82 (May 1973); CPM-7311E0720

Al'Terkop, B. A.—Nonlinear Plasma Ion Oscillations Excited by a Current (E/T)—E. Abu-Asali, B. A. Al'Terkop and A. A. Rukhadze. 36(4), 682–5 (Apr. 1973); CPM-7310E0832

Alyamovskii, V. N.—Collision Integral for a Low-Density Plasma (Quantum Theory) (T)—V. N. Alyamovskii. 36(3), 482–6 (Mar. 1973); CPM-7309D0482

Amulyavichus, A. P.—Mössbauer-spectroscopy investigation of the properties of thin oxide films (E)—I. P. Suzdalev and A. P. Amulyavichus. 36(5), 929–32 (May 1973); CPM-7311E0671

Amus'ya, M. Ya.—Calculation of the Multipole Polarizabilities and van der Waals Constants for Noble Gas Atoms (T)—M. Ya. Amus'ya, N. A. Cherepkov and S. G. Shapiro. 36(3), 468–72 (Mar. 1973); CPM-7309D0468

Anders, A. G.—Effect of short-range magnetic order on the temperature dependence of the copper tungstate EPR line width (E)—A. G. Anders and A. I. Zvyagin. 36(6), 1151–4 (Jun. 1973); CPM-7312F0487

Andreev, N. E.—Excitation of Parametric Instabilities in a Magnetoactive Plasma by a Microwave Pumping Wave (E)—N. E. Andreev, G. M. Batanov and K. A. Sarkysyan. 36(4), 659–62 (Apr. 1973); CPM-7310E0809

—Contribution to the Theory of Parametric Interaction between a High Frequency Field and a Magnetoactive Plasma (T/E)—N. E. Andreev. 36(4), 677–81 (Apr. 1973); CPM-7310E0827

Andreeva, N. I.—Investigation of the Formation of Local Concentrations near the Critical Liquid–Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Sklyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. 36(1), 82–8 (Jan. 1973); CPM-7305D0616

Andreeva, T. L.—Kinetics of the Generation Spectrum of a Photodissociation Iodine Laser (T/E)—V. A. Alekseev, T. L. Andreeva, V. N. Volkov and E. A. Yukov. 36(2), 238–42 (Feb. 1973); CPM-7307E0812

Andriyakhin, V. M.—Nuclear pumping in molecular gas lasers (T)—V. M. Andriyakhin, V. V. Vasil'tsov, S. S. Krasil'nikov and V. D. Pis'mennyi. 36(5), 865–9 (May 1973); CPM-7311E0607

Angeleiko, V. V.—Relaxation in a two-temperature plasma with directed electron motion (T)—I. A. Akhiezer and V. V. Angeleiko. 36(6), 1129–31 (Jun. 1973); CPM-7312F0465

Anisimov, M. A.—Experimental verification of the isomorphism hypothesis of critical phenomena (E)—M. A. Anisimov, E. E. Gorodetskii and N. G. Shmakov. 36(6), 1143–50 (Jun. 1973); CPM-7312F0479

Anisimov, S. I.—A New Type of Disclination in Liquid Crystals and the Stability of Disclinations of Various Types (T)—S. I. Anisimov and I. E. Dzyaloshinskii. 36(4), 774–9 (Apr. 1973); CPM-7310E0924

Anisimova, N. Z.—Low-Pressure Streamer Chamber in a Magnetic Field (E)—N. Z. Anisimova, V. A. Davidenko, B. A. Dolgoshein, S. V. Somov and V. N. Starosel'tsev. 36(1), 10–1 (Jan. 1973); CPM-7305D0544

Anisovich, V. V.—Shadow corrections to pion–deuteron and proton–deuteron collisions (T)—V. V. Anisovich, P. E. Volkovitskii and L. G. Dakhno. 36(5), 835–9 (May 1973); CPM-7311E0577

Antokolskii, G. L.—Role of dipole-dipole interactions in acoustic saturation of nuclear spin levels in crystals (E/T)—G. L. Antokolskii, L. N. Fershtat, E. V. Charnaya and V. A. Shutilov. **36** (5), 909–12 (May 1973); CPM-7311E0651

Aref'ev, I. M.—Propagation of hypersound and ultrasound in the isotropic phase of a nematic liquid crystal in the phase transition region (E)—I. M. Aref'ev, V. N. Biryukov, V. A. Gladkii, S. V. Krivokhizha, I. L. Fabelinskii and I. G. Chistyakov. **36**(5), 913–5 (May 1973); CPM-7311E0655

Arkhipov, R. G.—Estimate of the Energies of Symmetric Lattices of Non-Transition Metals by the Pseudo-Potential Method (T)—R. G. Arkhipov, E. S. Alekseev and A. F. Barabanov. **36**(2), 323–6 (Feb. 1973); CPM-7307E0897

Aronov, A. G.—The Superconductor–Excitonic Dielectric Phase Transition in a Semimetal (T)—A. G. Aronov and E. B. Sonin. **36** (3), 556–60 (Mar. 1973); CPM-7309D0556

—The tunneling of excitations from a superconductor and the increase of T_c (T/E)—A. G. Aronov and V. L. Gurevich. **36**(5), 957–63 (May 1973); CPM-7311E0699

Arsen'ev, V. V.—Investigation of the Statistical Properties of Ultrashort Light Pulses by Two-Photon Absorption in Semiconductors (T)—V. V. Arsen'ev, V. S. Dneprovskii, D. N. Klyshko, V. S. Fokin and V. U. Khattatov. **36**(3), 407–10 (Mar. 1973); CPM-7309D0407

Artem'ev, A. N.—Energy Analysis of Resonance γ Rays Diffracted by an α -Fe⁵⁷O₃ Single Crystal (E/T)—A. N. Artem'ev, V. V. Sklyarevskii, G. V. Smirnov and E. P. Stepanov. **36**(4), 736–7 (Apr. 1973); CPM-7310E0886

Artyukhovskaya, L. M.—The coexistence curve of heptane near the critical point (E)—L. M. Artyukhovskaya, E. T. Shimanskaya and Yu. I. Shimanskii. **36**(6), 1140–2 (Jun. 1973); CPM-7312F0476

Aruev, N. N.—A New Determination of the Proton Magnetic Moment in Terms of the Nuclear Magneton to Within 4.3×10^{-5} (E)—B. A. Mamyrin, N. N. Aruev and S. A. Alekseenko. **36**(1), 1–9 (Jan. 1973); CPM-7305D0535

Arutyunyan, F. R.—Emission of Light by Metals Bombarded by Nonrelativistic Electrons (E)—F. R. Arutyunyan, A. Kh. Mkhitarian, R. A. Oganesyan, B. O. Rostomyan and E. K. Khanikyants. **36**(4), 607–10 (Apr. 1973); CPM-7310E0757

Asadullin, Ya. Ya.—Ferrimagnetic Echo in the Subsidiary Absorption Region (T)—Ya. Ya. Asadullin. **36**(4), 797–8 (Apr. 1973); CPM-7310E0947

Astrov, D. N.—Low-frequency magnetoelectric resonances in BaMnF₄ (E)—B. I. Al'shin, D. N. Astrov and R. V. Zorin. **36**(6), 1161–4 (Jun. 1973); CPM-7312F0497

Avanesyan, G. T.—Some Relations from the Theory of Galvanomagnetic Phenomena (T)—G. T. Avanesyan and M. I. Kaganov. **36**(4), 780–2 (Apr. 1973); CPM-7310E0930

Averin, V. G.—Stimulated Emission Evoked by Pumping with a Pulsed Electron Beam Produced in a Linear Discharge (E)—V. G. Averin, A. I. Karchevskii and G. V. Yurkin. **36**(1), 44–7 (Jan. 1973); CPM-7305D0578

B

Bagaev, V. S.—Electron–Hole Drops in Uniaxial–Deformed Germanium (E/T)—A. S. Alekseev, V. S. Bagaev and T. I. Galkina. **36**(3), 536–40 (Mar. 1973); CPM-7309D0536

Baier, V. N.—Description of Electroproduction Processes by Using the Approximation of Quasi–Real Photons (T)—V. N. Baier and V. S. Fadin. **36**(3), 399–403 (Mar. 1973); CPM-7309D0399

—Radiation emitted by relativistic particles in periodic structures (T)—V. N. Baier, V. M. Katkov and V. M. Strakhovenko. **36**(6), 1120–4 (Jun. 1973); CPM-7312F0456

Bakai, A. S.—Combined Heating of a Plasma by an Electron Beam and an Intense Ion–Cyclotron Wave (E)—A. S. Bakai, A. I. Ermakov, S. S. Krivulya, N. I. Nazarov and V. T. Tolok. **36**(4), 651–3 (Apr. 1973); CPM-7310E0801

Bakhar, V. P.—Investigation of the Molecular Scattering of Light in a Sapphire Crystal (E)—I. L. Chisty, V. F. Kitaeva, N. N. Sobolev and V. P. Bakhar. **36**(4), 783–8 (Apr. 1973); CPM-7310E0933

Balashov, V. V.—A unified description of the resonance line profile in the energy spectra of scattered and emitted electrons (T)—V. V. Balashov, S. S. Lipovetskii and V. S. Senashenko. **36**(5), 858–60 (May 1973); CPM-7311E0600

Baldokhin, Yu. V.—Effect of Radio-Frequency Magnetic Reversal on the γ -Resonance Spectra of Ferromagnets (T/E)—Yu. V. Baldokhin, S. A. Borshch, L. M. Klinger and V. A. Povitskii. **36** (2), 374–6 (Feb. 1973); CPM-7307E0948

Balkarei, Yu. I.—Effect of an Intense Electromagnetic Wave on the Propagation of Ultrasound in a Quantized Magnetic Field (T)—Yu. I. Balkarei and E. M. Epshtein. **36**(2), 349–51 (Feb. 1973); CPM-7307E0923

Barabanov, A. F.—Estimate of the Energies of Symmetric Lattices of Non-Transition Metals by the Pseudo-Potential Method (T)—R. G. Arkhipov, E. S. Alekseev and A. F. Barabanov. **36**(2), 323–6 (Feb. 1973); CPM-7307E0897

Baranov, S. A.—New Data on Alpha Decay of ²⁵³Es and the Energy Levels of the ²⁴⁹Bk and ²⁵⁰Bk Nuclei (E)—S. A. Baranov, V. M. Shatinskii, V. M. Kulakov and Yu. F. Rodionov. **36**(2), 199–203 (Feb. 1973); CPM-7307E0773

Baskin, E. M.—Localized Electron States in Thin Layers due to Geometric Defects of the Surface (T)—E. M. Baskin, A. V. Chaplik and M. V. Entin. **36**(3), 566–9 (Mar. 1973); CPM-7309D0566

Basov, N. G.—Optical breakdown of compressed gases by CO₂ laser radiation (E)—N. G. Basov, E. M. Belenov, V. A. Danil'ychev, O. M. Kerimov and I. B. Kovsh. **36**(6), 1061–3 (Jun. 1973); CPM-7312F0397

Bass, F. G.—Certain properties of an electron plasma in a strong electromagnetic field (T)—F. G. Bass. **36**(5), 880–3 (May 1973); CPM-7311E0622

—Nonlinear waves of second sound in solids (T)—F. G. Bass and V. D. Freilikher. **36**(5), 1006–8 (May 1973); CPM-7311E0748

Batanov, G. M.—Excitation of Parametric Instabilities in a Magnetoactive Plasma by a Microwave Pumping Wave (E)—N. E. Andreev, G. M. Batanov and K. A. Sarkasyan. **36**(4), 659–62 (Apr. 1973); CPM-7310E0809

Batanov, V. A.—Evaporation of Metallic Targets Caused by Intense Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. **36**(2), 311–22 (Feb. 1973); CPM-7307E0885

—Gas-Dynamic Structures of a Plasma Flare Produced During the Evaporation of Metals by High-Intensity Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. **36**(4), 654–8 (Apr. 1973); CPM-7310E0804

Batenin, V. M.—Propagation Mechanism of an Ultrahigh-Frequency Discharge in Air (E)—V. M. Batenin, V. S. Zrodnikov, I. I. Klimovskii and N. I. Tsemko. **36**(3), 449–52 (Mar. 1973); CPM-7309D0449

Bazylev, V. A.—Bremsstrahlung Spectrum of Ultrarelativistic Electrons in a Dense Medium (T)—A. A. Varfolomeev, V. A. Bazylev and N. N. Zhevago. **36**(3), 430–5 (Mar. 1973); CPM-7309D0430

Belenov, E. M.—Kinetic Processes in a Laser Plasma (T)—Yu. V. Afan'sev, E. M. Belenov, O. N. Krokhin and I. A. Poluéktof. **36**(1), 64–8 (Jan. 1973); CPM-7305D0598

—Optical breakdown of compressed gases by CO₂ laser radiation (E)—N. G. Basov, E. M. Belenov, V. A. Danil'ychev, O. M. Kerimov and I. B. Kovsh. **36**(6), 1061–3 (Jun. 1973); CPM-7312F0397

Belevtsev, B. I.—Electric and structural properties of low-temperature bismuth films (E)—Yu. F. Komik, B. I. Belevtsev and L. A. Yatsuk. **36**(6), 1177–83 (Jun. 1973); CPM-7312F0513

Belinskii, V. A.—Effect of Scalar and Vector Fields on the Nature of the Cosmological Singularity (T)—V. A. Belinskii and I. M. Khalatnikov. **36**(4), 591–7 (Apr. 1973); CPM-7310E0741

Belov, K. P.—Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcogenide Spinel CdCr₂S₄ (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. **36**(4), 697–8 (Apr. 1973); CPM-7310E0847

—Transitions due to spin reorientation in a $H_{0.5}Dy_{0.5}FeO_3$ single crystal (E)—K. P. Belov, A. M. Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchi and A. Ya. Chernovkin. **36**(6), 1136–7 (Jun. 1973); CPM-7312F0472

Belyaev, L. M.—Electric and Magnetic Hyperfine Interactions of Fe⁵⁷ Nuclei in a Fe²⁺Al₂Si₃O₁₂ Crystal near the Neel Point (E/T)—A. P. Dodokin, I. S. Lyubutin, L. M. Belyaev and V. P. Peshkov. **36**(4), 738–41 (Apr. 1973); CPM-7310E0888

Berezin, A. K.—Interaction between a Modulated Relativistic Beam and a Plasma (E/T)—A. K. Berezin, Ya. B. Fainberg, L. I. Bolotin, A. M. Egorov, V. A. Kiselev, V. A. Buts, V. I. Kurliko and A. P. Tolstoluzhskii. **36**(3), 453–9 (Mar. 1973); CPM-7309D0453

Bereznyak, N. G.—Vapor Pressure of Liquid Hydrogen–Deuterium Solutions Below 20.4 K (E)—N. G. Bereznyak, I. V. Bogoyavlenskii and L. V. Karnatsevich. **36**(2), 304–6 (Feb. 1973); CPM-7307E0878

Bereznyak, P. A.—Theory of Diffusion Aftereffect (T)—P. A. Bereznyak, I. G. Ivanov and V. V. Slezov. *36*(3), 561–5 (Mar. 1973); CPM-7309D0561

Bezuglyi, E. V.—Thermal Conductivity of the Intermediate State of Superconductors (T)—V. P. Galaiko and E. V. Bezuglyi. *36*(2), 377–83 (Feb. 1973); CPM-7307E0951

Biryukov, V. N.—Propagation of hypersound and ultrasound in the isotropic phase of a nematic liquid crystal in the phase transition region (E)—I. M. Aref'ev, V. N. Biryukov, V. A. Gladkiy, S. V. Krivokhizha, I. L. Fabelinskii and I. G. Chistyakov. *36*(5), 913–5 (May 1973); CPM-7311E0655

Bogachev, E. N.—Oscillation effects of the "flux quantization" type in normal metals (T)—E. N. Bogachev and G. A. Gogadze. *36*(5), 973–7 (May 1973); CPM-7311E0715

Bogatina, N. I.—The Nonlinearity Mechanism of the Volt–Ampere Characteristics of Point Junctions (T/E)—N. I. Bogatina and I. K. Yanson. *36*(4), 692–6 (Apr. 1973); CPM-7310E0842

Bogdankevich, L. S.—Limiting Currents in Compensated Electron Beams with a Relativistic Energy Spread (T)—L. S. Bogdankevich and A. A. Rukhadze. *36*(3), 473–5 (Mar. 1973); CPM-7309D0473

Bogod, Yu. A.—Galvanomagnetic Properties of Antimony at Low Temperatures. Size Effect, Role of Surface, and Shape Effects (E/T)—Yu. A. Bogod and V. B. Krasovitskii. *36*(3), 544–9 (Mar. 1973); CPM-7309D0544

Bogoyavlenskii, I. V.—Vapor Pressure of Liquid Hydrogen–Deuterium Solutions Below 20.4 K (E)—N. G. Bereznyak, I. V. Bogoyavlenskii and L. V. Karnatsevich. *36*(2), 304–6 (Feb. 1973); CPM-7307E0878

Bolotin, L. I.—Interaction between a Modulated Relativistic Beam and a Plasma (E/T)—A. K. Berezin, Ya. B. Fainberg, L. I. Bolotin, A. M. Egorov, V. A. Kiselev, V. A. Buts, V. I. Kurliko and A. P. Tolstoluzhskii. *36*(3), 453–9 (Mar. 1973); CPM-7309D0453

Bondareva, N. D.—Exchange Interactions and Canted Spin Configurations in $MnFe_{2-x}Cr_xO_4$ (E)—T. V. Dmitrieva, I. S. Lyubutin, B. I. Pokrovskii and N. D. Bondareva. *36*(4), 709–13 (Apr. 1973); CPM-7310E0859

Borman, V. D.—Effect of Periodic Variation of the Coefficient of Heat Transfer in the Knudsen Molecular Gas Placed in Magnetic Field (E)—V. D. Borman, V. S. Laz'ko and B. I. Nikolaev. *36*(3), 466–7 (Mar. 1973); CPM-7309D0466

Borshch, S. A.—Effect of Radio-Frequency Magnetic Reversal on the γ -Resonance Spectra of Ferromagnets (T/E)—Yu. V. Baldokhin, S. A. Borshch, I. M. Klinger and V. A. Povitskii. *36*(2), 374–6 (Feb. 1973); CPM-7307E0948

Borshkovskii, I. A.—Acoustic Wave Excitation in Metals by Fast Charged Particles and Gamma Quanta (E)—I. A. Borshkovskii, V. D. Volovik, I. A. Grishaev, I. I. Zalyubovskii, V. V. Petrenko, G. A. Chekhutskii and G. L. Fursov. *36*(4), 706–8 (Apr. 1973); CPM-7310E0856

Brodskii, A. M.—Effect of adsorption on electron emission from metals (E)—A. M. Brodskii, Yu. Ya. Gurevich and S. V. Sherberstov. *36*(5), 948–56 (May 1973); CPM-7311E0690

Broide, E. L.—Dependence of the Electric and Thermoelectric Properties of Antimony on Pressure (E)—E. L. Broide. *36*(2), 307–8 (Feb. 1973); CPM-7307E0881

Brovman, E. G.—Singularities of multitail ring diagrams for Fermi systems (T)—E. G. Brovman and Yu. Kagan. *36*(5), 1025–31 (May 1973); CPM-7311E0767

Buchachenko, A. L.—Investigation of the Formation of Local Concentrations near the Critical Liquid–Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Sklyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. *36*(1), 82–8 (Jan. 1973); CPM-7305D0616

Buishvili, L. L.—Strong saturation of inhomogeneously broadened lines (T)—L. L. Buishvili, M. D. Zviadadze and G. R. Khutishvili. *36*(5), 933–8 (May 1973); CPM-7311E0675

Bulatov, A. S.—Phase Transition in Samarium (E)—A. S. Bulatov and V. A. Finkel'. *36*(1), 112–3 (Jan. 1973); CPM-7305D0646

Bunkin, F. V.—Evaporation of Metallic Targets Caused by Intense Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. *36*(2), 311–22 (Feb. 1973); CPM-7307E0885

—Gas-Dynamic Structures of a Plasma Flare Produced During the Evaporation of Metals by High-Intensity Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. *36*(4), 654–8 (Apr. 1973); CPM-7310E0804

Burshtein, A. I.—Manifestation of the Frequency Migration Mechanism in Decay of Echo Signals (T)—A. B. Doktorov and A. I. Burshtein. *36*(3), 411–7 (Mar. 1973); CPM-7309D0411

Buts, V. A.—Interaction between a Modulated Relativistic Beam and a Plasma (E/T)—A. K. Berezin, Ya. B. Fainberg, L. I. Bolotin, A. M. Egorov, V. A. Kiselev, V. A. Buts, V. I. Kurliko and A. P. Tolstoluzhskii. *36*(3), 453–9 (Mar. 1973); CPM-7309D0453

Bychkov, Yu. F.—Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. *36*(6), 1155–60 (Jun. 1973); CPM-7312F0491

Bykov, V. P.—Excited Molecules in a Medium with Negative Permittivity (T)—V. P. Bykov. *36*(4), 646–50 (Apr. 1973); CPM-7310E0796

C

Chalyi, A. V.—Properties of Matter at Susceptibility Extremum Points in Stationary Fields in the Vicinity of the Critical State (E/T)—A. D. Alekhin, N. P. Krupskii and A. V. Chalyi. *36*(4), 751–2 (Apr. 1973); CPM-7310E0901

Chaplik, A. V.—Localized Electron States in Thin Layers due to Geometric Defects of the Surface (T)—E. M. Baskin, A. V. Chaplik and M. V. Entin. *36*(3), 566–9 (Mar. 1973); CPM-7309D0566

Charnaya, E. V.—Role of dipole–dipole interactions in acoustic saturation of nuclear spin levels in crystals (E/T)—G. L. Antokolskii, L. N. Fershtat, E. V. Charnaya and V. A. Shutilov. *36*(5), 909–12 (May 1973); CPM-7311E0651

Chebotaev, V. P.—Effect of collisions on the shape of the neon spectral lines (E)—Yu. A. Matyugin, A. S. Provorov and V. P. Chebotaev. *36*(6), 1080–90 (Jun. 1973); CPM-7312F0416

Chekhutskii, G. A.—Acoustic Wave Excitation in Metals by Fast Charged Particles and Gamma Quanta (E)—I. A. Borshkovskii, V. D. Volovik, I. A. Grishaev, I. I. Zalyubovskii, V. V. Petrenko, G. A. Chekhutskii and G. L. Fursov. *36*(4), 706–8 (Apr. 1973); CPM-7310E0856

Cherepkov, N. A.—Calculation of the Multipole Polarizabilities and van der Waals Constants for Noble Gas Atoms (T)—M. Ya. Amus'ya, N. A. Cherepkov and S. G. Shapiro. *36*(3), 468–72 (Mar. 1973); CPM-7309D0468

Cherevatskii, N. Ya.—Some features of the Auger electron spectrum in the interaction between oxygen and the (111) surface of GA_3 (E)—A. Yu. Mityagin, V. P. Orlov, K. A. Khronopulo and N. Ya. Cherevatskii. *36*(5), 906–8 (May 1973); CPM-7311E0648

Chernoplekov, N. A.—Change of the Vanadium Phonon Spectrum Following Introduction of Tantalum Admixtures (E/T)—N. A. Chernoplekov, G. Kh. Panova, B. N. Samoilov and A. A. Shikov. *36*(4), 731–5 (Apr. 1973); CPM-7310E0881

Chervonenkis, A. Ya.—Submillimeter Intrinsic Domain–Wall Resonance in Orthoferrites (E)—G. A. Kraftmakher, V. V. Meriakri, A. Ya. Chervonenkis and V. I. Shcheglov. *36*(4), 714–7 (Apr. 1973); CPM-7310E0864

—Transitions due to spin reorientation in a $Ho_{0.5}Dy_{0.5}FeO_3$ single crystal (E)—K. P. Belov, A. M. Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchi and A. Ya. Chernovenkis. *36*(6), 1136–7 (Jun. 1973); CPM-7312F0472

Chigvinadze, Dzh. G.—Investigation of dissipative processes in single-crystal type II superconductors (E)—Dzh. G. Chigvinadze. *36*(6), 1132–5 (Jun. 1973); CPM-7312F0468

Chirkov, V. A.—Energy and Time Characteristics of Stimulated Raman Scattering of Light in Disperse Medium at Various Temperatures (E/T)—G. V. Peregudov, E. N. Ragozin and V. A. Chirkov. *36*(2), 223–7 (Feb. 1973); CPM-7307E0797

Chistyakov, I. G.—Propagation of hypersound and ultrasound in the isotropic phase of a nematic liquid crystal in the phase transition region (E)—I. M. Aref'ev, V. N. Biryukov, V. A. Gladkiy, S. V. Krivokhizha, I. L. Fabelinskii and I. G. Chistyakov. *36*(5), 913–5 (May 1973); CPM-7311E0655

Chistyakov, O. D.—Nature of Magnetic Anisotropy of Dysprosium. Paramagnetic Susceptibility of Dysprosium–Gadolinium Alloys (E)—R. Z. Levitin, T. M. Perekalina, L. P. Shlyakhina, O. D. Chistyakov and V. L. Yakovenko. *36*(4), 742–6 (Apr. 1973); CPM-7310E0892

Chisty, I. L.—Investigation of the Molecular Scattering of Light in a Sapphire Crystal (E)—I. L. Chisty, V. F. Kitaeva, N. N. Sobolev and V. P. Bakhar. *36*(4), 783–8 (Apr. 1973); CPM-7310E0933

Chumanov, V. Ya.—Scattering of Protons in a Thin Gold Single Crystal (E)—Yu. N. Zhukova, G. A. Ifetrov, A. F. Tulinov and V. Ya. Chumanov. **36**(1), 114–7 (Jan. 1973); CPM-7305D0648

Chuvyrov, A. N.—Experimental Study of the Frequency of Domain Structure Orientation Oscillations in Liquid Crystals (E/T)—A. N. Chuvyrov. **36**(3), 502–4 (Mar. 1973); CPM-7309D0502

D

Dakhno, L. G.—Shadow corrections to pion-deuteron and proton-deuteron collisions (T)—V. V. Anisovich, P. E. Volkovitskii and L. G. Dakhno. **36**(5), 835–9 (May 1973); CPM-7311E0577

Danch, F. F.—Experimental investigation of the excitation of Ar II and Kr II in electron-ion collisions (E)—I. P. Zapesochnyi, A. I. Imre, A. I. Dashchenko, V. S. Vukstich, F. F. Danch and V. A. Kel'man. **36**(6), 1056–60 (Jun. 1973); CPM-7312F0392

Danileiko, Yu. K.—The Role of Absorbing Impurities in Laser-Induced Damage of Transparent Dielectrics (T/E)—Yu. K. Danileiko, A. A. Manenkov, V. S. Nechitailo, A. M. Prokhorov and V. Ya. Khaimov-Mal'kov. **36**(3), 541–3 (Mar. 1973); CPM-7309D0541

Danilychev, V. A.—Optical breakdown of compressed gases by CO₂ laser radiation (E)—N. G. Basov, E. M. Belenov, V. A. Danilychev, O. M. Kerimov and I. B. Kovsh. **36**(6), 1061–3 (Jun. 1973); CPM-7312F0397

Dashchenko, A. I.—Experimental investigation of the excitation of Ar II and Kr II in electron-ion collisions (E)—I. P. Zapesochnyi, A. I. Imre, A. I. Dashchenko, V. S. Vukstich, F. F. Danch and V. A. Kel'man. **36**(6), 1056–60 (Jun. 1973); CPM-7312F0392

Davidenko, V. A.—Low-Pressure Streamer Chamber in a Magnetic Field (E)—N. Z. Anisimova, V. A. Davidenko, B. A. Dolgoshein, S. V. Somov and V. N. Starosel'tsev. **36**(1), 10–1 (Jan. 1973); CPM-7305D0544

Davydov, L. N.—Temperature Magnetoacoustic Resonance in Crystals with an Antiferro-ferromagnetic Transition (E/T)—I. A. Akhiezer, A. E. Ginzburg, L. N. Davydov and Z. A. Spol'nik. **36**(4), 765–6 (Apr. 1973); CPM-7310E0915

Demirkhanov, R. A.—Investigation of the mechanism of heating of the plasma electron component under two-stream instability conditions in a mirror trap (E)—R. A. Demirkhanov, A. K. Gavorkov, A. F. Popov and O. A. Kolmakov. **36**(5), 874–9 (May 1973); CPM-7311E0616

Derebchinskii, A. I.—Photodisintegration of C¹² at γ -ray energies from 250 to 1200 MeV (E)—S. G. Tonapetyan, N. V. Goncharov, A. I. Derebchinskii, O. G. Konovalov and V. M. Khorostyan. **36**(6), 1033–5 (Jun. 1973); CPM-7312F0369

Dmitrenko, G. V.—Theory of Polarons in Many-Valley Crystals. II. Strong Interactions between an Electron and the Polarization Oscillations of the Lattice (T)—S. I. Pekar, V. I. Sheka and G. V. Dmitrenko. **36**(4), 771–3 (Apr. 1973); CPM-7310E0921

Dmitrenko, I. M.—Effect of an Electromagnetic Field on Point Josephson Junctions under Strong Fluctuations Conditions (E)—I. M. Dmitrenko, V. I. Karamushko and L. K. Snigireva. **36**(3), 514–5 (Mar. 1973); CPM-7309D0514

Dmitrieva, T. V.—Exchange Interactions and Canted Spin Configurations in MnFe_{2-x}Cr_xO₄ (E)—T. V. Dmitrieva, I. S. Lyubutin, B. I. Pokrovskii and N. D. Bondareva. **36**(4), 709–13 (Apr. 1973); CPM-7310E0859

Dneprovskii, V. S.—Investigation of the Statistical Properties of Ultrashort Light Pulses by Two-Photon Absorption in Semiconductors (T)—V. V. Arsen'ev, V. S. Dneprovskii, D. N. Klyshko, V. S. Fokin and V. U. Khattatov. **36**(3), 407–10 (Mar. 1973); CPM-7309D0407

Dodokin, A. P.—Mössbauer Effect in Antiferromagnetic Substances with Garnet Structures (E/T)—A. P. Dodokin, I. S. Lyubutin, B. V. Mill' and V. P. Peshkov. **36**(3), 526–30 (Mar. 1973); CPM-7309D0526

—Electric and Magnetic Hyperfine Interactions of Fe⁵⁷ Nuclei in a Fe₂₊Al₂Si₃O₁₂ Crystal near the Neel Point (E/T)—A. P. Dodokin, I. S. Lyubutin, L. M. Belyaev and V. P. Peshkov. **36**(4), 738–41 (Apr. 1973); CPM-7310E0888

Doktorov, A. B.—Manifestation of the Frequency Migration Mechanism in Decay of Echo Signals (T)—A. B. Doktorov and A. I. Burshtein. **36**(3), 411–7 (Mar. 1973); CPM-7309D0411

Dolgoshein, B. A.—Low-Pressure Streamer Chamber in a Magnetic Field (E)—N. Z. Anisimova, V. A. Davidenko, B. A. Dolgoshein, S. V. Somov and V. N. Starosel'tsev. **36**(1), 10–1 (Jan. 1973); CPM-7305D0544

Doroshkevich, A. G.—Gravitational synchrotron radiation (T)—A. G. Doroshkevich, I. D. Novikov and A. G. Polnarev. **36**(5), 816–20 (May 1973); CPM-7311E0558

Dranova, Zh. I.—Field-Ion-Microscopic Study of Interstitial Plasticity of Tungsten Microcrystals (E/T)—I. M. Mikhailovskii and Zh. I. Dranova. **36**(2), 300–3 (Feb. 1973); CPM-7307E0874

Drežin, Yu. A.—Anomalous Conductivity of Inhomogeneous Media in a Strong Magnetic Field (T)—Yu. A. Drežin and A. M. Dykhne. **36**(1), 127–36 (Jan. 1973); CPM-7305D0661

Drozdov, M. S.—Kinetics of a Pulsed Chemical Carbon Monoxide Laser with Photoinitiated Oxidation of Carbon Disulfide (E/T)—E. B. Gordon, V. S. Pavlenko, Yu. L. Moskvin, M. S. Drozdov, P. S. Vinogradov and V. L. Tal'roze. **36**(4), 611–8 (Apr. 1973); CPM-7310E0761

Dubovoi, A. P.—Electric Potential and Particle Concentration of a Plasma in the Vicinity of a Rapidly Moving Charge (T)—A. P. Dubovoi. **36**(3), 498–501 (Mar. 1973); CPM-7309D0498

Dukin, V. V.—Effect of Impurities on the Residual Electric Resistivity of Cadmium (E/T)—B. N. Aleksandrov and V. V. Dukin. **36**(2), 343–8 (Feb. 1973); CPM-7307E0917

Dyakonov, M. I.—Hypersine interaction in optical orientation of electrons in semiconductors (T)—M. I. Dyakonov and V. I. Perel'. **36**(5), 995–1000 (May 1973); CPM-7311E0737

Dykhne, A. M.—Anomalous Conductivity of Inhomogeneous Media in a Strong Magnetic Field (T)—Yu. A. Drežin and A. M. Dykhne. **36**(1), 127–36 (Jan. 1973); CPM-7305D0661

Dynkin, S. D.—Gravitational Radiation in the Scalar-Tensor Gravitation Theory (T)—L. E. Gurevich and S. D. Dynkin. **36**(2), 195–8 (Feb. 1973); CPM-7307E0769

Dzyaloshinskii, I. E.—A New Type of Disclination in Liquid Crystals and the Stability of Disclinations of Various Types (T)—S. I. Anisimov and I. E. Dzyaloshinskii. **36**(4), 774–9 (Apr. 1973); CPM-7310E0924

E

Ebeling, W.—Quantum Kinetic Equations for a Nonideal Gas and a Nonideal Plasma (T)—Yu. L. Klimontovich and W. Ebeling. **36**(3), 476–81 (Mar. 1973); CPM-7309D0476

Édel'shtein, V. M.—On the Theory of the Piezoelectric Polaron (T)—V. M. Édel'shtein. **36**(4), 809–10 (Apr. 1973); CPM-7310E0959

Egorov, A. I.—Hypersine Broadening of the X-Ray Lines (E)—A. S. Ryl'nikov, A. I. Egorov, G. A. Ivanov, V. I. Marushenko, A. F. Mezentsev, A. I. Smirnov, O. I. Sumbayev and V. V. Fedorov. **36**(1), 27–32 (Jan. 1973); CPM-7305D0561

Egorov, A. M.—Interaction between a Modulated, Relativistic Beam and a Plasma (E/T)—A. K. Berezin, Ya. B. Fainberg, L. I. Bolotin, A. M. Egorov, V. A. Kiselev, V. A. Buts, V. I. Kurliko and A. P. Tolstoluzhskii. **36**(3), 453–9 (Mar. 1973); CPM-7309D0453

Eleonskii, V. M.—Structure of Three-Component Vector Fields in Self-Focusing Waveguides (T)—V. M. Eleonskii, L. G. Oganes'Yants and V. P. Silin. **36**(2), 282–5 (Feb. 1973); CPM-7307E0856

Elesin, V. F.—Bose Condensation of Excitons in a Strong Magnetic Field (T)—V. F. Elesin and Yu. V. Kopaev. **36**(4), 767–70 (Apr. 1973); CPM-7310E0917

Enikolopyan, N. S.—Investigation of the Formation of Local Concentrations near the Critical Liquid-Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Sklyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. **36**(1), 82–8 (Jan. 1973); CPM-7305D0616

Éntin, M. V.—Localized Electron States in Thin Layers due to Geometric Defects of the Surface (T)—É. M. Baskin, A. V. Chaplik and M. V. Éntin. **36**(3), 566–9 (Mar. 1973); CPM-7309D0566

Épshtéin, É. M.—Effect of an Intense Electromagnetic Wave on the Propagation of Ultrasound in a Quantized Magnetic Field (T)—Yu. I. Balkarei and É. M. Épshtéin. **36**(2), 349–51 (Feb. 1973); CPM-7307E0923

Ermakov, A. I.—Combined Heating of a Plasma by an Electron Beam and an Intense Ion-Cyclotron Wave (E)—A. S. Bakai, A. I. Ermakov, S. S. Krivulya, N. I. Nazarov and V. T. Tolok. **36**(4), 651–3 (Apr. 1973); CPM-7310E0801

Ermakov, Yu. A.—Resonance Absorption of Electromagnetic Energy by Ions on a Vortex in Superfluid Helium (T)—Yu. A. Ermakov. **36**(2), 327–9 (Feb. 1973); CPM-7307E0901

Ershov, G. M.—Theory of Multi-Pulsed Excitation of Signals of the Light-Echo Type (T)—G. M. Ershov and U. Kh. Kopvillem. 36 (1), 147–52 (Jan. 1973); CPM-7305D0681

Ershov, V. G.—Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. 36(6), 1155–60 (Jun. 1973); CPM-7312F0491

F

Fabelinskii, I. L.—Stimulated Entropy (Temperature) Scattering and its Affect on Stimulated Mandel'shtam-Brillouin Scattering (E/T)—Yu. I. Kyzylasov, V. S. Starunov and I. L. Fabelinskii. 36(2), 216–22 (Feb. 1973); CPM-7307E0790

—Propagation of hypersound and ultrasound in the isotropic phase of a nematic liquid crystal in the phase transition region (E)—I. M. Aref'ev, V. N. Biryukov, V. A. Gladkii, S. V. Krivokhizha, I. L. Fabelinskii and I. G. Chistyakov. 36(5), 913–5 (May 1973); CPM-7311E0655

Fadin, V. S.—Description of Electroproduction Processes by Using the Approximation of Quasi-Real Photons (T)—V. N. Baier and V. S. Fadin. 36(3), 399–403 (Mar. 1973); CPM-7309D0399

Fainberg, Ya. B.—Interaction between a Modulated Relativistic Beam and a Plasma (E/T)—A. K. Berezin, Ya. B. Fainberg, L. I. Bolotin, A. M. Egorov, V. A. Kiselev, V. A. Buts, V. I. Kurliko and A. P. Tolstoluzhskii. 36(3), 453–9 (Mar. 1973); CPM-7309D0453

—Appearance of Turbulence during the Interaction of a "Monoenergetic" Beam with a Plasma (T)—N. G. Matsiborko, I. N. Onishchenko, Ya. B. Fainberg, V. D. Shapiro and V. I. Shevchenko. 36(3), 460–5 (Mar. 1973); CPM-7309D0460

Fainshtein, S. M.—High-frequency instability of an electromagnetic wave in a nonequilibrium magnetized plasma (T)—M. I. Rabinovich and S. M. Fainshtein. 36(5), 884–6 (May 1973); CPM-7311E0626

Fal'kovskii, L. A.—Propagation of a Rayleigh wave along a rough surface (T)—E. I. Urazakov and L. A. Fal'kovskii. 36(6), 1214–7 (Jun. 1973); CPM-7312F0550

Fedorov, V. B.—Evaporation of Metallic Targets Caused by Intense Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(2), 311–22 (Feb. 1973); CPM-7307E0885

—Gas-Dynamic Structures of a Plasma Flare Produced During the Evaporation of Metals by High-Intensity Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(4), 654–8 (Apr. 1973); CPM-7310E0804

Fedorov, V. V.—Hyperfine Broadening of the X-Ray Lines (E)—A. S. Ryl'nikov, A. I. Egorov, G. A. Ivanov, V. I. Marushenko, A. F. Mezents'ev, A. I. Smirnov, O. I. Sumbayev and V. V. Fedorov. 36 (1), 27–32 (Jan. 1973); CPM-7305D0561

Fel'dman, E. P.—Influence of Dislocations on the de Haas-van Alphen Effect (T)—A. I. Gutnikov and E. P. Fel'dman. 36(3), 553–5 (Mar. 1973); CPM-7309D0553

Fershtat, L. N.—Role of dipole-dipole interactions in acoustic saturation of nuclear spin levels in crystals (E/T)—G. L. Antokols'kii, L. N. Fershtat, E. V. Charnaya and V. A. Shutilov. 36 (5), 909–12 (May 1973); CPM-7311E0651

Filippov, G. M.—Theory of the Shadow Effect (T)—G. M. Filippov, N. G. Vodyanov and V. I. Korneev. 36(3), 404–6 (Mar. 1973); CPM-7309D0404

Finkel', V. A.—Phase Transition in Samarium (E)—A. S. Bulatov and V. A. Finkel'. 36(1), 112–3 (Jan. 1973); CPM-7305D0646

Fisher, I. Z.—Long-range four-particle correlations at the critical point (T)—N. P. Malomuzh, V. P. Oleinik and I. Z. Fisher. 36(6), 1233–8 (Jun. 1973); CPM-7312F0569

Fisher, L. M.—Doppler Shifted Cyclotron Resonance in Cadmium (E/T)—O. V. Konstantinov, V. G. Skobov, V. V. Lavrova, L. M. Fisher and V. A. Yudin. 36(1), 118–26 (Jan. 1973); CPM-7305D0652

Fogel', N. Ya.—Temperature Dependence of the Viscosity Coefficient in Type II Superconductors (E/T)—N. Ya. Fogel'. 36(4), 725–30 (Apr. 1973); CPM-7310E0875

Fokin, V. S.—Investigation of the Statistical Properties of Ultrashort Light Pulses by Two-Photon Absorption in Semiconductors (T)—V. V. Arsen'ev, V. S. Dneprovskii, D. N. Klyshko, V. S. Fokin and V. U. Khattatov. 36(3), 407–10 (Mar. 1973); CPM-7309D0407

Fomichev, S. V.—Excitations in the one-dimensional Hubbard model (T)—G. V. Uimin and S. V. Fomichev. 36(5), 1001–6 (May 1973); CPM-7311E0743

Fortov, V. E.—Equation of State of a Nonideal Cesium Plasma (E)—B. N. Lomakin and V. E. Fortov. 36(1), 48–53 (Jan. 1973); CPM-7305D0582

Fradkin, E. E.—Effect of combination coupling on the spectral and statistical properties of multimode fluctuations in a traveling-wave laser (T/E)—Yu. M. Golubev and E. E. Fradkin. 36(6), 1099–104 (Jun. 1973); CPM-7312F0435

Frankevich, E. L.—New type of magnetically sensitive fluorescence produced by excitation of tetracene on the surface of an anthracene crystal (E)—E. L. Frankevich and B. M. Rumyantsev. 36(6), 1064–8 (Jun. 1973); CPM-7312F0400

Freilikher, V. D.—Nonlinear waves of second sound in solids (T)—F. G. Bass and V. D. Freilikher. 36(5), 1006–8 (May 1973); CPM-7311E0748

Fuks, I. M.—Resonance Width on Magnetic Surface Levels (T)—A. V. Vilenkin, E. A. Kaner and I. M. Fuks. 36(1), 166–72 (Jan. 1973); CPM-7305D0700

Fursov, G. L.—Acoustic Wave Excitation in Metals by Fast Charged Particles and Gamma Quanta (E)—I. A. Borshkovskii, V. D. Volovik, I. A. Grishaev, I. I. Zalyubovskii, V. V. Petrenko, G. A. Chekhutskii and G. L. Fursov. 36(4), 706–8 (Apr. 1973); CPM-7310E0856

G

Gadomskii, O. N.—Theory of Radiation from a System of Weakly Interacting Particles (T)—O. N. Gadomskii, V. R. Nagibarov and N. K. Solovarov. 36(3), 426–9 (Mar. 1973); CPM-7309D0426

Galaiko, V. P.—Thermal Conductivity of the Intermediate State of Superconductors (T)—V. P. Galaiko and E. V. Bezuglyi. 36(2), 377–83 (Feb. 1973); CPM-7307E0951

Galeev, A. A.—Plasma Effects in Stimulated Compton Interaction between Matter and Radiation (T)—A. A. Galeev and R. A. Syunyaev. 36(4), 669–76 (Apr. 1973); CPM-7310E0819

Galkina, T. I.—Electron-Hole Drops in Uniaxial-Deformed Germanium (E/T)—A. S. Alekseev, V. S. Bagaev and T. I. Galkina. 36(3), 536–40 (Mar. 1973); CPM-7309D0536

Gal'perin, Yu. M.—Nonlinear Damping of Short-Wave Sound in a Conductor Located in a Magnetic Field (T)—Yu. M. Gal'perin and V. I. Kozub. 36(3), 570–6 (Mar. 1973); CPM-7309D0570

Gantmakher, V. F.—Experimental investigation of scattering of electrons by dislocations in copper (E)—V. F. Gantmakher, V. A. Gasparov, G. I. Kulesko and V. N. Matveev. 36(5), 925–8 (May 1973); CPM-7311E0667

Garber, R. I.—Field Ion Microscopic Study of the Microstructure of Superconducting Deformable Niobium Alloys (E)—R. I. Garber, B. G. Lazarev, L. S. Lazareva, I. M. Mikhailovskii and N. N. Sidorenko. 36(4), 718–20 (Apr. 1973); CPM-7310E0868

Garibyan, G. M.—Lateral Spots of X-Ray Transition Radiation in Crystals and their Effect on the Central Spot (T)—G. M. Garibyan and C. Yang. 36(4), 631–7 (Apr. 1973); CPM-7310E0781

Gasparov, V. A.—Experimental investigation of scattering of electrons by dislocations in copper (E)—V. F. Gantmakher, V. A. Gasparov, G. I. Kulesko and V. N. Matveev. 36(5), 925–8 (May 1973); CPM-7311E0667

Gel'd, P. V.—Matthiessen rule and high-temperature electrical resistivity of solid solutions of silicon in iron (E/T)—V. E. Zinov'ev, Sh. Sh. Abel'skii, M. I. Sandakova, L. N. Petrova and P. V. Gel'd. 36(6), 1174–6 (Jun. 1973); CPM-7312F0510

Gevorkov, A. K.—Investigation of the mechanism of heating of the plasma electron component under two-stream instability conditions in a mirror trap (E)—R. A. Demirkhanov, A. K. Gevorkov, A. F. Popov and O. A. Kolmakov. 36(5), 874–9 (May 1973); CPM-7311E0616

Ginzburg, A. É.—Temperature Magnetoacoustic Resonance in Crystals with an Antiferro-ferromagnetic Transition (E/T)—I. A. Akhiezer, A. É. Ginzburg, L. N. Davydov and Z. A. Spol'nik. 36 (4), 765–6 (Apr. 1973); CPM-7310E0915

Ginzburg, S. L.—Eikonal approximation in the problem of electron motion in the field of impurity centers (T)—S. L. Ginzburg. 36(6), 1198–202 (Jun. 1973); CPM-7312F0534

Ginzburg, V. L.—Phenomenological Electrodynamics of Gyrotropic Media (T)—V. M. Agranovich and V. L. Ginzburg. 36(3), 440–3 (Mar. 1973); CPM-7309D0440

Gladkii, V. A.—Propagation of hypersound and ultrasound in the isotropic phase of a nematic liquid crystal in the phase transition region (E)—I. M. Aref'ev, V. N. Biryukov, V. A. Gladkii, S. V. Krivokhizha, I. L. Fabelinskii and I. G. Chistyakov. 36(5), 913–5 (May 1973); CPM-7311E0655

Gogadze, G. A.—Oscillation effects of the "flux quantization" type in normal metals (T)—É. N. Bogachev and G. A. Gogadze. *36*(5), 973–7 (May 1973); CPM-7311E0715

Gol'danskii, V. G.—Determination of the dynamical and structural characteristics of liquid crystal from Mössbauer spectra (T)—V. G. Gol'danskii, O. P. Kevdin, N. K. Kivrina, E. F. Makarov, V. Ya. Rochev and R. A. Stukan. *36*(6), 1226–8 (Jun. 1973); CPM-7312F0562

Golovashkin, A. I.—Investigation of Tunnel Characteristics of Sputtered Superconducting Nb_3Sn Films (E)—S. I. Vedeneev, A. I. Golovashkin, I. S. Levchenko and G. P. Motulevich. *36*(3), 531–5 (Mar. 1973); CPM-7309D0531

Golubev, Yu. M.—Effect of combination coupling on the spectral and statistical properties of multimode fluctuations in a traveling-wave laser (T/E)—Yu. M. Golubev and E. E. Fradkin. *36*(6), 1099–104 (Jun. 1973); CPM-7312F0435

Goncharov, N. V.—Photodisintegration of C^{12} at γ -ray energies from 250 to 1200 MeV (E)—S. G. Tonapetyan, N. V. Goncharov, A. I. Derebchinskii, O. G. Konovalov and V. M. Khvorostyan. *36*(6), 1033–5 (Jun. 1973); CPM-7312F0369

Gorbunova, V. G.—Thermodynamic Quantities for Pure Liquids and the Applicability of the Asymptotic Laws near the Critical Point (E/T)—A. V. Voronel', V. G. Gorbunova, V. A. Smirnov, N. G. Shmakov and V. V. Shchekochikhina. *36*(3), 505–13 (Mar. 1973); CPM-7309D0505

Gordeev, I. V.—Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcogenide Spinel $CdCr_2S_4$ (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. *36*(4), 697–8 (Apr. 1973); CPM-7310E0847

Gordeev, Yu. S.—Inelastic Energy Loss and Ionization in Excitation of Outer and Inner Electron Shells During Atomic Collisions (E)—V. V. Afrosimov, Yu. S. Gordeev, A. M. Polyanskii and A. P. Shergin. *36*(3), 418–25 (Mar. 1973); CPM-7309D0418

Gordon, E. B.—Change in the Hyperfine State of the Hydrogen Atom During its Collisions with Unsaturated Hydrocarbon Molecules in the Gaseous State (E)—E. B. Gordon, A. P. Perminov, B. I. Ivanov, V. I. Matyushenko, A. N. Ponomarev and V. L. Tal'Roze. *36*(2), 212–5 (Feb. 1973); CPM-7307E0786

—Kinetics of a Pulsed Chemical Carbon Monoxide Laser with Photoinitiated Oxidation of Carbon Disulfide (E/T)—E. B. Gordon, V. S. Pavlenko, Yu. L. Moskin, M. S. Drozdov, P. S. Vinogradov and V. L. Tal'Roze. *36*(4), 611–8 (Apr. 1973); CPM-7310E0761

Gordyunin, S. A.—Origin of the electron spectrum in metals of the bismuth group (T)—S. A. Gordyunin and L. P. Gor'kov. *36*(5), 1017–24 (May 1973); CPM-7311E0759

Gorelkin, V. N.—Calculation of Intermolecular Interaction Forces between Bodies Separated by a Film of a Strong Electrolyte Solution (T)—V. N. Gorelkin and V. P. Smilga. *36*(4), 761–4 (Apr. 1973); CPM-7310E0911

Gor'kov, L. P.—Role of Anisotropy in Exciton Transitions (T)—L. P. Gor'kov and T. T. Mnatsakanov. *36*(2), 361–4 (Feb. 1973); CPM-7307E0935

—Origin of the electron spectrum in metals of the bismuth group (T)—S. A. Gordyunin and L. P. Gor'kov. *36*(5), 1017–24 (May 1973); CPM-7311E0759

Gorodetskii, E. E.—Experimental verification of the isomorphism hypothesis of critical phenomena (E)—M. A. Anisimov, E. E. Gorodetskii and N. G. Shmakov. *36*(6), 1143–50 (Jun. 1973); CPM-7312F0479

Govorun, E. Ya.—Visualization of Radiation in the Millimeter and Submillimeter Range by Means of Liquid Crystals (E)—A. V. Tolmachev, E. Ya. Govorun and V. M. Kuz'michev. *36*(2), 309–10 (Feb. 1973); CPM-7307E0883

Gradov, O. M.—Kinetic Theory of Parametric Excitation of Surface Waves in a Semifinite Plasma (T)—Yu. M. Aliev, O. M. Gradov and A. Yu. Kirii. *36*(1), 59–63 (Jan. 1973); CPM-7305D0593

—Contribution to the Theory of Parametric Resonance in an Inhomogeneous Plasma (T)—Yu. M. Aliev, O. M. Gradov and A. Yu. Kirii. *36*(4), 663–8 (Apr. 1973); CPM-7310E0813

Grishaev, I. A.—Acoustic Wave Excitation in Metals by Fast Charged Particles and Gamma Quanta (E)—I. A. Borshkovskii, V. D. Volovik, I. A. Grishaev, I. I. Zalyubovskii, V. V. Petrenko, G. A. Chekhutskii and G. L. Fursov. *36*(4), 706–8 (Apr. 1973); CPM-7310E0856

—Interference of synchrotron radiation photons from a single electron (E)—I. A. Grishaev, I. S. Guk, A. S. Mazmanishvili and A. S. Tarasenko. *36*(5), 870–1 (May 1973); CPM-7311E0612

Grishin, A. M.—Absorption of Rayleigh sound waves in metals (T)—A. M. Grishin and E. A. Kaner. *36*(6), 1217–22 (Jun. 1973); CPM-7312F0553

Gromzin, D. E.—Antiferromagnetic Resonance in MnO (E)—V. S. Mandel', V. D. Voronkov and D. E. Gromzin. *36*(3), 521–5 (Mar. 1973); CPM-7309D0521

Gufan, Yu. M.—Features of phase transitions associated with two- and three-component order parameters (T)—Yu. M. Gufan and V. P. Sakhnenko. *36*(5), 1009–14 (May 1973); CPM-7311E0751

Guk, I. S.—Interference of synchrotron radiation photons from a single electron (E)—I. A. Grishaev, I. S. Guk, A. S. Mazmanishvili and A. S. Tarasenko. *36*(5), 870–1 (May 1973); CPM-7311E0612

Gurevich, A. V.—Ion Acceleration Upon Expansion of a Rarefied Plasma (T/E)—A. V. Gurevich, L. V. Pariiskaya and L. P. Pitaevskii. *36*(2), 274–81 (Feb. 1973); CPM-7307E0848

Gurevich, L. E.—Gravitational Radiation in the Scalar-Tensor Gravitation Theory (T)—L. E. Gurevich and S. D. Dynkin. *36*(2), 195–8 (Feb. 1973); CPM-7307E0769

Gurevich, V. L.—The tunneling of excitations from a superconductor and the increase of T_c (T/E)—A. G. Aronov and V. L. Gurevich. *36*(5), 957–63 (May 1973); CPM-7311E0699

Gurevich, Yu. Ya.—Effect of adsorption on electron emission from metals (E)—A. M. Brodskii, Yu. Ya. Gurevich and S. V. Sherberstov. *36*(5), 948–56 (May 1973); CPM-7311E0690

Guseinov, R. R.—Nature of the phase transition under the conditions of an "excitonic" instability in the electronic spectrum of a crystal (T)—R. R. Guseinov and L. V. Keldysh. *36*(6), 1193–7 (Jun. 1973); CPM-7312F0529

Gutnikov, A. I.—Influence of Dislocations on the de Haas-van Alphen Effect (T)—A. I. Gutnikov and E. P. Feildman. *36*(3), 553–5 (Mar. 1973); CPM-7309D0553

Ivanter, I. G.—Phenomenological theory of depolarization of μ^+ mesons in magnetic media (T)—I. G. Ivanter. 36(5), 990–4 (May 1973); CPM-7311E0732

K

Kadomtseva, A. M.—Transitions due to spin reorientation in a $\text{Ho}_{0.5}\text{Dy}_{0.5}\text{FeO}_3$ single crystal (E)—K. P. Belov, A. M.

Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchi and A. Ya. Chervonenkis. 36(6), 1136–7 (Jun. 1973); CPM-7312F0472

Kagan, Yu.—Singularities of multitail ring diagrams for Fermi systems (T)—E. G. Brovman and Yu. Kagan. 36(5), 1025–31 (May 1973); CPM-7311E0767

Kaganov, M. I.—Some Relations from the Theory of Galvanomagnetic Phenomena (T)—G. T. Avanesyan and M. I. Kaganov. 36(4), 780–2 (Apr. 1973); CPM-7310E0930

—The radio-electric effect in a strong magnetic field (T)—M. I. Kaganov and V. P. Peshkov. 36(6), 1210–3 (Jun. 1973); CPM-7312F0546

Kalanov, M.—Neutron refraction at individual domain boundaries in a ferromagnet (T)—S. Sh. Shil'shtein, V. A. Somenkov and M. Kalanov. 36(6), 1170–3 (Jun. 1973); CPM-7312F0506

Kalashnikov, N. P.—Elastic Scattering of Fast Charged Particles in a Single Crystal (T)—N. P. Kalashnikov, É. A. Koptelov and M. I. Ryazanov. 36(3), 583–7 (Mar. 1973); CPM-7309D0583

Kamchatnov, A. M.—Structure of residual interaction in spherical nuclei (T)—A. M. Kamchatnov and V. G. Nosov. 36(6), 1036–44 (Jun. 1973); CPM-7312F0372

Kaminker, D. M.—Determination of the Ratio of the Proton and Deuteron Nuclear Magnetic Moments (E)—D. M. Kaminker, Yu. I. Neronov, Kh. Mukhamadiev and A. I. Pautov. 36(2), 208–11 (Feb. 1973); CPM-7307E0782

Kaner, É. A.—Resonance Width on Magnetic Surface Levels (T)—A. V. Vilenkin, É. A. Kaner and I. M. Fuks. 36(1), 166–72 (Jan. 1973); CPM-7305D0700

—Cyclotron resonance in specular reflection of electrons from the surface of a metal (T)—D. E. Zherebchevskii and É. A. Kaner. 36(5), 983–9 (May 1973); CPM-7311E0725

—Absorption of Rayleigh sound waves in metals (T)—A. M. Grishin and É. A. Kaner. 36(6), 1217–22 (Jun. 1973); CPM-7312F0553

Kapitonov, V. S.—Damping of Long-Wave Plasma Oscillations (T)—V. S. Kapitonov and V. N. Popov. 36(1), 75–7 (Jan. 1973); CPM-7305D0609

Karamushko, V. I.—Effect of an Electromagnetic Field on Point Josephson Junctions under Strong Fluctuations Conditions (E)—I. M. Dmitrenko, V. I. Karamushko and L. K. Snigireva. 36(3), 514–5 (Mar. 1973); CPM-7309D0514

Karasik, V. P.—Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. 36(6), 1155–60 (Jun. 1973); CPM-7312F0491

Karchevskii, A. I.—Stimulated Emission Evoked by Pumping with a Pulsed Electron Beam Produced in a Linear Discharge (E)—V. G. Averin, A. I. Karchevskii and G. V. Yurkin. 36(1), 44–7 (Jan. 1973); CPM-7305D0578

Karlov, N. V.—Photon Echo in the Molecular Gases BCl_3 and SF_6 (E/T)—S. S. Alimpiev and N. V. Karlóv. 36(2), 255–9 (Feb. 1973); CPM-7307E0829

Karnatsevich, L. V.—Vapor Pressure of Liquid Hydrogen-Deuterium Solutions Below 20.4 K (E)—N. G. Bereznyak, I. V. Bogoyavlenskii and L. V. Karnatsevich. 36(2), 304–6 (Feb. 1973); CPM-7307E0878

Karpman, V. I.—Nonlinear Evolution of a Quasimonochromatic Packet of Helical Waves in a Plasma (T/E)—Ya. N. Istomin and V. I. Karpman. 36(1), 69–74 (Jan. 1973); CPM-7305D0603

—Effect of dispersion on the nonlinear evolution of quasi-monochromatic helical waves in a magnetoactive plasma (T/E)—Ya. N. Istomin and V. I. Karpman. 36(5), 897–900 (May 1973); CPM-7311E0639

Katkov, V. M.—Radiation emitted by relativistic particles in periodic structures (T)—V. N. Baier, V. M. Katkov and V. M. Strakhovenko. 36(6), 1120–4 (Jun. 1973); CPM-7312F0456

Kats, E. I.—Effect of Periodic Perturbations on the Cholesteric Mesophase (T/E)—E. I. Kats. 36(1), 173–5 (Jan. 1973); CPM-7305D0707

Kazantsev, A. P.—Acceleration of atoms by a resonance field (E/T)—A. P. Kazantsev. 36(5), 861–4 (May 1973); CPM-7311E0603

Keldysh, L. V.—Nature of the phase transition under the conditions of an "excitonic" instability in the electronic spectrum of a crystal (T)—R. R. Guseinov and L. V. Keldysh. 36(6), 1193–7 (Jun. 1973); CPM-7312F0529

Kel'man, V. A.—Experimental investigation of the excitation of Ar II and Kr II in electron-ion collisions (E)—I. P. Zapesochnyi, A. I. Imre, A. I. Dashchenko, V. S. Vukstich, F. F. Danch and V. A. Kel'man. 36(6), 1056–60 (Jun. 1973); CPM-7312F0392

Kerimov, O. M.—Optical breakdown of compressed gases by CO_2 laser radiation (E)—N. G. Basov, E. M. Belenov, V. A. Danil'ychev, O. M. Kerimov and I. B. Kovsh. 36(6), 1061–3 (Jun. 1973); CPM-7312F0397

Kevdin, O. P.—Determination of the dynamical and structural characteristics of liquid crystal from Mössbauer spectra (T)—V. G. Gol'danskii, O. P. Kevdin, N. K. Kirvina, E. F. Makarov, V. Ya. Rochev and R. A. Stukan. 36(6), 1226–8 (Jun. 1973); CPM-7312F0562

Khachaturyan, A. G.—Atomic Structure of Ordered Phases. Stability with Respect to Formation of Antiphase Domains (T)—A. G. Khachaturyan. 36(4), 753–60 (Apr. 1973); CPM-7310E0903

Khaimov-Mal'kov, V. Ya.—The Role of Absorbing Impurities in Laser-Induced Damage of Transparent Dielectrics (T/E)—Yu. K. Danileiko, A. A. Manenkov, V. S. Nechitailo, A. M. Prokhorov and V. Ya. Khaimov-Mal'kov. 36(3), 541–3 (Mar. 1973); CPM-7309D0541

Khalantnikov, I. M.—Theory of the Kapitza Temperature Discontinuity at a Solid Body-Liquid Helium Boundary (T)—I. M. Khalantnikov and I. N. Ademenko. 36(3), 391–4 (Mar. 1973); CPM-7309D0391

Khalatnikov, I. M.—Effect of Scalar and Vector Fields on the Nature of the Cosmological Singularity (T)—V. A. Belinskii and I. M. Khalatnikov. 36(4), 591–7 (Apr. 1973); CPM-7310E0741

Khanikyants, E. K.—Emission of Light by Metals Bombardeed by Nonrelativistic Electrons (E)—F. R. Arutyunyan, A. Kh. Mkhitaryan, R. A. Oganesyan, B. O. Rostomyan and E. K. Khanikyants. 36(4), 607–10 (Apr. 1973); CPM-7310E0757

Kharitonov, V. D.—Attenuation of the critical vibrations in displacive-type ferroelectrics containing dislocations (T)—V. V. Tarasenko and V. D. Kharitonov. 36(6), 1189–92 (Jun. 1973); CPM-7312F0525

Khattatov, V. U.—Investigation of the Statistical Properties of Ultrashort Light Pulses by Two-Photon Absorption in Semiconductors (T)—V. V. Arsen'ev, V. S. Dneprovskii, D. N. Klyshko, V. S. Fokin and V. U. Khattatov. 36(3), 407–10 (Mar. 1973); CPM-7309D0407

Khazanov, E. N.—Nonlinear acoustoelectric effect and amplification of ultrasound in indium antimonide (E/T)—P. E. Zil'berman, S. N. Ivanov, I. M. Kotelyanskii, G. D. Mansfeld and E. N. Khazanov. 36(5), 921–4 (May 1973); CPM-7311E0663

Khener, E. K.—Theory of Magnetoacoustic Resonance (T)—E. K. Khener. 36(1), 137–41 (Jan. 1973); CPM-7305D0671

Khmaruk, V. G.—Collisionless Heating of Plasma Ions by an Ion Beam (E)—G. S. Kirichenko and V. G. Khmaruk. 36(1), 56–8 (Jan. 1973); CPM-7305D0590

Khokhlachev, S. B.—Isomorphism of Critical Phenomena (T)—A. Z. Patashinskii, V. L. Pokrovskii and S. B. Khokhlachev. 36(4), 807–8 (Apr. 1973); CPM-7310E0957

Khronopulo, K. A.—Some features of the Auger electron spectrum in the interaction between oxygen and the (111) surface of GaP (E)—A. Yu. Mityagin, V. P. Orlov, K. A. Khronopulo and N. Ya. Cherevatskii. 36(5), 906–8 (May 1973); CPM-7311E0648

Khutishvili, G. R.—Strong saturation of inhomogeneously broadened lines (T)—L. L. Buiashvili, M. D. Zviadadze and G. R. Khutishvili. 36(5), 933–8 (May 1973); CPM-7311E0675

Khvorostyan, V. M.—Photodisintegration of Cl^{12} at γ -ray energies from 250 to 1200 MeV (E)—S. G. Tonapetyan, N. V. Goncharov, A. I. Derebchinskii, O. G. Konovalov and V. M. Khvorostyan. 36(6), 1033–5 (Jun. 1973); CPM-7312F0369

Kingsep, A. S.—Role of Nonlinear Effects in the Problem of the Anomalous Resistance of Plasma (T)—A. S. Kingsep. 36(2), 264–5 (Feb. 1973); CPM-7307E0838

Kingsep, S. S.—Mechanism of gas ionization by an intense electron beam (E)—S. S. Kingsep, I. V. Novobrantsev, L. I. Rudakov, V. P. Smirnov and A. M. Spektor. 36(6), 1125–8 (Jun. 1973); CPM-7312F0461

Kirichenko, G. S.—Collisionless Heating of Plasma Ions by an Ion Beam (E)—G. S. Kirichenko and V. G. Khmaruk. 36(1), 56–8 (Jan. 1973); CPM-7305D0590

Kirič, A. Yu.—Kinetic Theory of Parametric Excitation of Surface Waves in a Semifinite Plasma (T)—Yu. M. Aliev, O. M. Gradov and A. Yu. Kirič. **36**(1), 59–63 (Jan. 1973); CPM-7305D0593

—Contribution to the Theory of Parametric Resonance in an Inhomogeneous Plasma (T)—Yu. M. Aliev, O. M. Gradov and A. Yu. Kirič. **36**(4), 663–8 (Apr. 1973); CPM-7310E0813

Kiselev, V. A.—Interaction between a Modulated Relativistic Beam and a Plasma (E/T)—A. K. Berezin, Ya. B. Fainberg, L. I. Bolotin, A. M. Egorov, V. A. Kiselev, V. A. Buts, V. I. Kurliko and A. P. Tolstoluzhskii. **36**(3), 453–9 (Mar. 1973); CPM-7309D0453

Kitaeva, V. F.—Investigation of the Molecular Scattering of Light in a Sapphire Crystal (E)—I. L. Chisty, V. F. Kitaeva, N. N. Sobolev and V. P. Bakhar. **36**(4), 783–8 (Apr. 1973); CPM-7310E0933

Kivrina, N. K.—Determination of the dynamical and structural characteristics of liquid crystal from Mössbauer spectra (T)—V. G. Gol'danskii, O. P. Kevdin, N. K. Kivrina, E. F. Makarov, V. Ya. Rochev and R. A. Stukan. **36**(6), 1226–8 (Jun. 1973); CPM-7312F0562

Klimontovich, Yu. L.—The Boltzmann H-Theorem for an Imperfect Gas (T)—Yu. L. Klimontovich. **36**(1), 78–81 (Jan. 1973); CPM-7305D0612

—Quantum Kinetic Equations for a Nonideal Gas and a Nonideal Plasma (T)—Yu. L. Klimontovich and W. Ebeling. **36**(3), 476–81 (Mar. 1973); CPM-7309D0476

Klimovskii, I. I.—Propagation Mechanism of an Ultrahigh-Frequency Discharge in Air (E)—V. M. Batenin, V. S. Zrodnikov, I. I. Klimovskii and N. I. Tsemko. **36**(3), 449–52 (Mar. 1973); CPM-7309D0449

Klinger, L. M.—Effect of Radio-Frequency Magnetic Reversal on the γ -Resonance Spectra of Ferromagnets (T/E)—Yu. V. Baldokhin, S. A. Borshch, L. M. Klinger and V. A. Povitskii. **36**(2), 374–6 (Feb. 1973); CPM-7307E0948

Klyshko, D. N.—Investigation of the Statistical Properties of Ultrashort Light Pulses by Two-Photon Absorption in Semiconductors (T)—V. V. Arsen'ev, V. S. Dneprovskii, D. N. Klyshko, V. S. Fokin and V. U. Khattatov. **36**(3), 407–10 (Mar. 1973); CPM-7309D0407

Kolchenko, A. P.—Effect of Selective Collisions on the Velocity Distribution of Atoms and on Nonlinear Interference Effects (T)—A. P. Kolchenko, A. A. Pukhov, S. G. Rautian and A. M. Shalagin. **36**(4), 619–28 (Apr. 1973); CPM-7310E0769

Kolganov, V. A.—Spin-Wave Relaxation in Antiferromagnets (T)—V. A. Kolganov. **36**(1), 182–7 (Jan. 1973); CPM-7305D0716

Kolmakov, O. A.—Investigation of the mechanism of heating of the plasma electron component under two-stream instability conditions in a mirror trap (E)—R. A. Demirkhanov, A. K. Gevorkov, A. F. Popov and O. A. Kolmakov. **36**(5), 874–9 (May 1973); CPM-7311E0616

Kolybasov, V. M.—Pion–Deuteron Scattering Length (T)—V. M. Kolybasov and A. E. Kudryavtsev. **36**(1), 18–23 (Jan. 1973); CPM-7305D0552

Komik, Yu. F.—Electric and structural properties of low temperature bismuth films (E)—Yu. F. Komik, B. I. Belevtsev and L. A. Yatsuk. **36**(6), 1177–83 (Jun. 1973); CPM-7312F0513

Kondorskii, E. I.—Magnetic Anisotropy of Nickel (T/E)—E. I. Kondorskii and E. Straube. **36**(1), 188–93 (Jan. 1973); CPM-7305D0722

Konovalov, O. G.—Photodisintegration of C^{12} at γ -ray energies from 250 to 1200 MeV (E)—S. G. Tonapetyan, N. V. Goncharov, A. I. Derebchinskii, O. G. Konovalov and V. M. Khvorostyan. **36**(6), 1033–5 (Jun. 1973); CPM-7312F0369

Konstantinov, O. V.—Doppler Shifted Cyclotron Resonance in Cadmium (E/T)—O. V. Konstantinov, V. G. Skobov, V. V. Lavrova, L. M. Fisher and V. A. Yudin. **36**(1), 118–26 (Jan. 1973); CPM-7305D0652

Kopaev, Yu. V.—Effect of a Metal–Dielectric Phase Transition on the Superconducting Transition Temperature (T)—Yu. V. Kopaev and R. Kh. Timerov. **36**(1), 153–62 (Jan. 1973); CPM-7305D0687

—Bose Condensation of Excitons in a Strong Magnetic Field (T)—V. F. Elesin and Yu. V. Kopaev. **36**(4), 767–70 (Apr. 1973); CPM-7310E0917

Koptelov, É. A.—Elastic Scattering of Fast Charged Particles in a Single Crystal (T)—N. P. Kalashnikov, É. A. Koptelov and M. I. Ryazanov. **36**(3), 583–7 (Mar. 1973); CPM-7309D0583

Kopivillem, U. Kh.—Theory of Multi-Pulsed Excitation of Signals of the Light-Echo Type (T)—G. M. Ershov and U. Kh. Kopivillem. **36**(1), 147–52 (Jan. 1973); CPM-7305D0681

Korneev, V. I.—Theory of the Shadow Effect (T)—G. M. Filippov, N. G. Vodyanov and V. I. Korneev. **36**(3), 404–6 (Mar. 1973); CPM-7309D0404

Korneev, V. V.—Oscillations of a Nondegenerate Plasma in Quantized Magnetic Fields (T)—V. V. Korneev and A. N. Starostin. **36**(3), 487–91 (Mar. 1973); CPM-7309D0487

Koroleva, L. I.—Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcogenide Spinel $CdCr_2S_4$ (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. **36**(4), 697–8 (Apr. 1973); CPM-7310E0847

Kotelyanskii, I. M.—Nonlinear acoustoelectric effect and amplification of ultrasound in indium antimonide (E/T)—P. E. Zil'berman, S. N. Ivanov, I. M. Kotelyanskii, G. D. Mansfeld and E. N. Khazanov. **36**(5), 921–4 (May 1973); CPM-7311E0663

Kotyuzhanskii, B. Ya.—Parametric excitation of spin waves in ferromagnetic $MnCO_3$ (E)—V. V. Kveder, B. Ya. Kotyuzhanskii and L. A. Prozorova. **36**(6), 1165–9 (Jun. 1973); CPM-7312F0501

Kovarskii, V. A.—Contribution of Collisions to Multiphoton Resonances in Gases (T)—N. F. Perel'man and V. A. Kovarskii. **36**(3), 436–9 (Mar. 1973); CPM-7309D0436

Kovsh, I. B.—Optical breakdown of compressed gases by CO_2 laser radiation (E)—N. G. Basov, E. M. Belenov, V. A. Danil'ychev, O. M. Kerimov and I. B. Kovsh. **36**(6), 1061–3 (Jun. 1973); CPM-7312F0397

Kozub, V. I.—Nonlinear Damping of Short-Wave Sound in a Conductor Located in a Magnetic Field (T)—Yu. M. Gal'perin and V. I. Kozub. **36**(3), 570–6 (Mar. 1973); CPM-7309D0570

Kraftmakher, G. A.—Submillimeter Intrinsic Domain-Wall Resonance in Orthoferrites (E)—G. A. Kraftmakher, V. V. Meriakri, A. Ya. Chervonenkis and V. I. Shcheglov. **36**(4), 714–7 (Apr. 1973); CPM-7310E0864

Krasil'nikov, S. S.—Nuclear pumping in molecular gas lasers (T)—V. M. Andriyakin, V. V. Vasil'tsov, S. S. Krasil'nikov and V. D. Pis'mennyi. **36**(5), 865–9 (May 1973); CPM-7311E0607

Krasovitskii, V. B.—Galvanomagnetic Properties of Antimony at Low Temperatures. Size Effect, Role of Surface, and Shape Effects (E/T)—Yu. A. Bogod and V. B. Krasovitskii. **36**(3), 544–9 (Mar. 1973); CPM-7309D0544

Krivogiaz, M. A.—Existence of an Equilibrium Disperse Phase Containing Metallic Particles (T)—M. A. Krivogiaz. **36**(2), 354–60 (Feb. 1973); CPM-7307E0928

Krivokhizha, S. V.—Propagation of hypersound and ultrasound in the isotropic phase of a nematic liquid crystal in the phase transition region (E)—I. M. Aref'ev, V. N. Biryukov, V. A. Gladkii, S. V. Krivokhizha, I. L. Fabelinskii and I. G. Chistyakov. **36**(5), 913–5 (May 1973); CPM-7311E0655

Krivulya, S. S.—Combined Heating of a Plasma by an Electron Beam and an Intense Ion–Cyclotron Wave (E)—A. S. Bakai, A. I. Ermakov, S. S. Krivulya, N. I. Nazarov and V. T. Tolok. **36**(4), 651–3 (Apr. 1973); CPM-7310E0801

Krokhin, O. N.—Kinetic Processes in a Laser Plasma (T)—Yu. V. Afanas'ev, É. M. Belenov, O. N. Krokhin and I. A. Poluékotov. **36**(1), 64–8 (Jan. 1973); CPM-7305D0598

Krupskii, N. P.—Properties of Matter at Susceptibility Extremum Points in Stationary Fields in the Vicinity of the Critical State (E/T)—A. D. Alekhin, N. P. Krupskii and A. V. Chalyi. **36**(4), 751–2 (Apr. 1973); CPM-7310E0901

Krynetskii, I. B.—Transitions due to spin reorientation in a $Ho_{0.5}Dy_{0.5}Fe_3O_4$ single crystal (E)—K. P. Belov, A. M. Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchi and A. Ya. Chervonenkis. **36**(6), 1136–7 (Jun. 1973); CPM-7312F0472

Kudrin, L. P.—Calculation of the Collision Cross Sections for Slow Excited Atoms and Molecules (T)—L. P. Kudrin and Yu. V. Mikhailova. **36**(1), 33–8 (Jan. 1973); CPM-7305D0567

Kudryavtsev, A. E.—Pion–Deuteron Scattering Length (T)—V. M. Kolybasov and A. E. Kudryavtsev. **36**(1), 18–23 (Jan. 1973); CPM-7305D0552

—Cross Section for Deuteron Disintegration by π Mesons Near Threshold (T)—A. E. Kudryavtsev. **36**(2), 204–7 (Feb. 1973); CPM-7307E0778

Kudryavtsev, V. A.—A dual model for Fermions without parity degeneracy on the principal trajectory (T)—V. A. Kudryavtsev and E. M. Levin. **36**(6), 1045–51 (Jun. 1973); CPM-7312F0381

Kukushkin, L. S.—Some properties of electrons in gaseous helium in the presence of a strong magnetic field (T)—L. S. Kukushkin and V. B. Shikin. **36**(5), 969–72 (May 1973); CPM-7311E0711

Kulakov, V. M.—New Data on Alpha Decay of ^{253}Es and the Energy Levels of the ^{249}Bk and ^{250}Bk Nuclei (E)—S. A. Baranov, V. M. Shatinskii, V. M. Kulakov and Yu. F. Rodionov. **36**(2), 199–203 (Feb. 1973); CPM-7307E0773

Kulesko, G. I.—Experimental investigation of scattering of electrons by dislocations in copper (E)—V. F. Gantmakher, V. A. Gasparov, G. I. Kulesko and V. N. Matveev. **36**(5), 925–8 (May 1973); CPM-7311E0667

Kulikov, I. B.—Theory of Uniaxial Crystals with Zero Forbidden Band (T)—I. B. Kulikov. **36**(1), 163–5 (Jan. 1973); CPM-7305D0697

—Threshold phenomena in a gapless semiconductor with a linear spectrum (T)—I. B. Kulikov. **36**(6), 1223–5 (Jun. 1973); CPM-7312F0559

Kunovich, A. V.—Exchange interactions and spin noncollinearity in hexagonal ferrites (E)—M. P. Petrov and A. V. Kunovich. **36**(6), 1184–8 (Jun. 1973); CPM-7312F0520

Kuraev, E. A.—Production of Triplets by Polarized Photons (T)—E. A. Vinokurov and É. A. Kuraev. **36**(4), 602–6 (Apr. 1973); CPM-7310E0752

Kurganov, G. B.—Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. **36**(6), 1155–60 (Jun. 1973); CPM-7312F0491

Kurliko, V. I.—Interaction between a Modulated Relativistic Beam and a Plasma (E/T)—A. K. Berezin, Ya. B. Fainberg, L. I. Bolotin, A. M. Egorov, V. A. Kiselev, V. A. Buts, V. I. Kurliko and A. P. Tolstoluzhskii. **36**(3), 453–9 (Mar. 1973); CPM-7309D0453

Kuz'michev, V. M.—Visualization of Radiation in the Millimeter and Submillimeter Range by Means of Liquid Crystals (E)—A. V. Tolmachev, E. Ya. Govorun and V. M. Kuz'michev. **36**(2), 309–10 (Feb. 1973); CPM-7307E0883

Kveder, V. V.—Parametric excitation of spin waves in ferromagnetic MnCO_3 (E)—V. V. Kveder, B. Ya. Kotyuzhanskii and L. A. Prozorova. **36**(6), 1165–9 (Jun. 1973); CPM-7312F0501

Kyzylasov, Yu. I.—Stimulated Entropy (Temperature) Scattering and its Affect on Stimulated Mandel'shtam-Brillouin Scattering (E/T)—Yu. I. Kyzylasov, V. S. Starunov and I. L. Fabelinskii. **36**(2), 216–22 (Feb. 1973); CPM-7307E0790

L

Landa, P. S.—Noise emission by a resonant medium in a strong field (T)—P. S. Landa and E. F. Slin'ko. **36**(5), 852–7 (May 1973); CPM-7311E0594

Lang, I. G.—Theory of Electron Dragging by Phonons in a Magnetic Field (T)—I. G. Lang and S. T. Pavlov. **36**(4), 793–6 (Apr. 1973); CPM-7310E0943

Lavrova, V. V.—Doppler Shifted Cyclotron Resonance in Cadmium (E/T)—O. V. Konstantinov, V. G. Skobov, V. V. Lavrova, L. M. Fisher and V. A. Yudin. **36**(1), 118–26 (Jan. 1973); CPM-7305D0652

Lazarev, B. G.—Field Ion Microscopic Study of the Microstructure of Superconducting Deformable Niobium Alloys (E)—R. I. Garber, B. G. Lazarev, L. S. Lazareva, I. M. Mikhailovskii and N. N. Sidorenko. **36**(4), 718–20 (Apr. 1973); CPM-7310E0868

Lazareva, L. S.—Field Ion Microscopic Study of the Microstructure of Superconducting Deformable Niobium Alloys (E)—R. I. Garber, B. G. Lazarev, L. S. Lazareva, I. M. Mikhailovskii and N. N. Sidorenko. **36**(4), 718–20 (Apr. 1973); CPM-7310E0868

Laz'ko, V. S.—Effect of Periodic Variation of the Coefficient of Heat Transfer in the Knudsen Molecular Gas Placed in Magnetic Field (E)—V. D. Borman, V. S. Laz'ko and B. I. Nikolaev. **36**(3), 466–7 (Mar. 1973); CPM-7309D0466

Lazurik-Él'tsufin, V. T.—Dynamic effect on passage of a charged particle beam through solid bodies (T)—I. A. Akhiezer and V. T. Lazurik-Él'tsufin. **36**(5), 939–40 (May 1973); CPM-7311E0681

Letokhov, V. S.—Luminescence of a molecular gas under the action of CO_2 laser pulses (E)—V. S. Letokhov, E. A. Ryabov and O. A. Tumanov. **36**(6), 1069–73 (Jun. 1973); CPM-7312F0405

—Kinetics of excitation of molecular vibrations by infrared laser radiation (T)—V. S. Letokhov and A. A. Makarov. **36**(6), 1091–6 (Jun. 1973); CPM-7312F0427

Levchenko, I. S.—Investigation of Tunnel Characteristics of Sputtered Superconducting Nb_3Sn Films (E)—S. I. Vedeneev, A. I. Golovashkin, I. S. Levchenko and G. P. Motulevich. **36**(3), 531–5 (Mar. 1973); CPM-7309D0531

Levin, E. M.—A dual model for Fermions without parity degeneracy on the principal trajectory (T)—V. A. Kudryavtsev and E. M. Levin. **36**(6), 1045–51 (Jun. 1973); CPM-7312F0381

Levitin, R. Z.—Nature of Magnetic Anisotropy of Dysprosium. Paramagnetic Susceptibility of Dysprosium-Gadolinium Alloys (E)—R. Z. Levitin, T. M. Perekalina, L. P. Shlyakhina, O. D. Chistyakov and V. L. Yakovenko. **36**(4), 742–6 (Apr. 1973); CPM-7310E0892

Libenson, B. N.—Some Features of Large-Angle Elastic Electron-Atom Scattering at Intermediate Energies (T)—V. V. Rumyantsev, Yu. A. Morozov and B. N. Libenson. **36**(4), 643–5 (Apr. 1973); CPM-7310E0793

Lipovetskii, S. S.—A unified description of the resonance line profile in the energy spectra of scattered and emitted electrons (T)—V. V. Balashov, S. S. Lipovetskii and V. S. Senashenko. **36**(5), 858–60 (May 1973); CPM-7311E0600

Livshitz, M. A.—Magnetic Pulsation Spectra in a Nonisothermal Plasma (T)—M. A. Livshitz and V. N. Tsytovich. **36**(2), 286–90 (Feb. 1973); CPM-7307E0860

Lomakin, B. N.—Equation of State of a Nonideal Cesium Plasma (E)—B. N. Lomakin and V. E. Fortov. **36**(1), 48–53 (Jan. 1973); CPM-7305D0582

Lominadze, D. G.—Instability of a Current-Carrying Plasma at Cyclotron Harmonics and the Anomalous Resistance (T)—D. G. Lominadze. **36**(4), 686–91 (Apr. 1973); CPM-7310E0836

L'vov, V. S.—Resonance Phenomena in a Parametric Spin Wave System (E/T)—V. V. Zautkin, V. S. L'vov and S. S. Starobinets. **36**(1), 96–9 (Jan. 1973); CPM-7305D0630

Lyagushchenko, R. I.—Relaxation of fast electrons in gases and semiconductors (T)—R. I. Lyagushchenko. **36**(5), 901–5 (May 1973); CPM-7311E0643

Lyubutin, I. S.—Mössbauer Effect in Antiferromagnetic Substances with Garnet Structures (E/T)—A. P. Dodokin, I. S. Lyubutin, B. V. Mill' and V. P. Peshkov. **36**(3), 526–30 (Mar. 1973); CPM-7309D0526

—Exchange Interactions and Canted Spin Configurations in $\text{MnFe}_{2-x}\text{Cr}_x\text{O}_4$ (E)—T. V. Dmitrieva, I. S. Lyubutin, B. I. Pokrovskii and N. D. Bondareva. **36**(4), 709–13 (Apr. 1973); CPM-7310E0859

—Electric and Magnetic Hyperfine Interactions of Fe^{57} Nuclei in a $\text{Fe}^{2+}_{13}\text{Al}_2\text{Si}_3\text{O}_{12}$ Crystal near the Neel Point (E/T)—A. P. Dodokin, I. S. Lyubutin, L. M. Belyaev and V. P. Peshkov. **36**(4), 738–41 (Apr. 1973); CPM-7310E0888

M

Makarov, A. A.—Kinetics of excitation of molecular vibrations by infrared laser radiation (T)—V. S. Letokhov and A. A. Makarov. **36**(6), 1091–6 (Jun. 1973); CPM-7312F0427

Makarov, E. F.—Determination of the dynamical and structural characteristics of liquid crystal from Mössbauer spectra (T)—V. G. Gol'danskii, O. P. Kevdin, N. K. Kivrina, E. F. Makarov, V. Ya. Rochev and R. A. Stukan. **36**(6), 1226–8 (Jun. 1973); CPM-7312F0562

Makhnev, V. P.—Fluctuations of the Radiation Rise Time in a Gas Laser with Nonlinear Resonant Absorption (E/T)—V. P. Makhnev and G. G. Telegin. **36**(4), 638–42 (Apr. 1973); CPM-7310E0788

Malomuzh, N. P.—Long-range four-particle correlations at the critical point (T)—N. P. Malomuzh, V. P. Oleinik and I. Z. Fisher. **36**(6), 1233–8 (Jun. 1973); CPM-7312F0569

Mal'shukov, A. G.—Phonon component of dynamic dragging of dislocations (T)—V. I. Al'shitz and A. G. Mal'shukov. **36**(5), 978–82 (May 1973); CPM-7311E0720

—Surface excitons and electrostatic image forces at the metal-dielectric boundary with allowance for field penetration into the metal (T)—V. M. Agranovich, A. G. Malshukov and M. A. Mekhtiev. **36**(6), 1203–9 (Jun. 1973); CPM-7312F0539

Mamyrin, B. A.—A New Determination of the Proton Magnetic Moment in Terms of the Nuclear Magneton to Within 4.3×10^{-5} (E)—B. A. Mamyrin, N. N. Aruev and S. A. Alekseenko. **36**(1), 1–9 (Jan. 1973); CPM-7305D0535

Mandel', V. S.—Antiferromagnetic Resonance in MnO (E)—V. S. Mandel', V. D. Voronkov and D. E. Gromzin. **36**(3), 521–5 (Mar. 1973); CPM-7309D0521

Manenkov, A. A.—The Role of Absorbing Impurities in Laser-Induced Damage of Transparent Dielectrics (T/E)—Yu. K. Danileiko, A. A. Manenkov, V. S. Nechitailo, A. M. Prokhorov and V. Ya. Khaimov-Mal'kov. **36**(3), 541–3 (Mar. 1973); CPM-7309D0541

Mansfel'd, G. D.—Nonlinear acoustoelectric effect and amplification of ultrasound in indium antimonide (E/T)—P. E. Zil'berman, S. N. Ivanov, I. M. Kotelyanskii, G. D. Mansfel'd and E. N. Khazanov. 36(5), 921–4 (May 1973); CPM-7311E0663

Marushenko, V. I.—Hyperfine Broadening of the X-Ray Lines (E)—A. S. Ryl'nikov, A. I. Egorov, G. A. Ivanov, V. I. Marushenko, A. F. Mezentsev, A. I. Smirnov, O. I. Sumbaev and V. V. Fedorov. 36(1), 27–32 (Jan. 1973); CPM-7305D0561

Mash, I. D.—Optical Constants and Electronic Characteristics of Titanium (E)—I. D. Mash and G. P. Motulevich. 36(3), 516–20 (Mar. 1973); CPM-7309D0516

Matsiborko, N. G.—Appearance of Turbulence during the Interaction of a "Monoenergetic" Beam with a Plasma (T)—N. G. Matsiborko, I. N. Onishchenko, Ya. B. Fainberg, V. D. Shapiro and V. I. Shevchenko. 36(3), 460–5 (Mar. 1973); CPM-7309D0460

Matveenko, A. V.—Calculation of the $\mu^- + He^{++}$ Reaction (T)—A. V. Matveenko and L. I. Ponomarev. 36(1), 24–6 (Jan. 1973); CPM-7305D0558

Matveev, V. N.—Experimental investigation of scattering of electrons by dislocations in copper (E)—V. F. Gantmakher, V. A. Gasparov, G. I. Kulesko and V. N. Matveev. 36(5), 925–8 (May 1973); CPM-7311E0667

Matyugin, Yu. A.—Effect of collisions on the shape of the neon spectral lines (E)—Yu. A. Matyugin, A. S. Provorov and V. P. Chebotaev. 36(6), 1080–90 (Jun. 1973); CPM-7312F0416

Matyushenko, V. I.—Change in the Hyperfine State of the Hydrogen Atom During its Collisions with Unsaturated Hydrocarbon Molecules in the Gaseous State (E)—E. B. Gordon, A. P. Perminov, B. I. Ivanov, V. I. Matyushenko, A. N. Ponomarev and V. L. Tal'Roze. 36(2), 212–5 (Feb. 1973); CPM-7307E0786

Mazmanishvili, A. S.—Interference of synchrotron radiation photons from a single electron (E)—I. A. Grishaev, I. S. Guk, A. S. Mazmanishvili and A. S. Tarasenko. 36(5), 870–1 (May 1973); CPM-7311E0612

Medvedev, Yu. V.—Effect of Lattice Oscillations on the Tunnel Current in Normal Metals (T)—Yu. M. Ivanchenko and Yu. V. Medvedev. 36(1), 142–6 (Jan. 1973); CPM-7305D0676

Meierovich, B. É.—Diffusion in a High Frequency Gas Discharge (T)—B. É. Meierovich. 36(2), 291–9 (Feb. 1973); CPM-7307E0865

Mekhtiev, M. A.—Surface excitons and electrostatic image forces at the metal–dielectric boundary with allowance for field penetration into the metal (T)—V. M. Agranovich, A. G. Malshukov and M. A. Mekhtiev. 36(6), 1203–9 (Jun. 1973); CPM-7312F0539

Mel'nik, V. L.—The Spectrum and Excitation of Electromagnetic Waves in Bismuth in the Region of Hole Cyclotron Resonances (E/T)—V. P. Naberezhnikh, D. E. Zherebchevskii and V. L. Mel'nik. 36(1), 89–95 (Jan. 1973); CPM-7305D0623

Mel'nikov, V. I.—Mobility of a Negative Ion in He^3 (T)—V. I. Mel'nikov. 36(2), 368–73 (Feb. 1973); CPM-7307E0942

Menshikov, A. Z.—The Mössbauer Effect in Face-Centered Cubic Lattices of Iron–Nickel Alloys (E/T)—A. Z. Menshikov and E. E. Yurchikov. 36(1), 100–4 (Jan. 1973); CPM-7305D0634

Meriakri, V. V.—Submillimeter Intrinsic Domain–Wall Resonance in Orthoferrites (E)—G. A. Kraftmakher, V. V. Meriakri, A. Ya. Chervonenkis and V. I. Shcheglov. 36(4), 714–7 (Apr. 1973); CPM-7310E0864

Mezentsev, A. F.—Hyperfine Broadening of the X-Ray Lines (E)—A. S. Ryl'nikov, A. I. Egorov, G. A. Ivanov, V. I. Marushenko, A. F. Mezentsev, A. I. Smirnov, O. I. Sumbaev and V. V. Fedorov. 36(1), 27–32 (Jan. 1973); CPM-7305D0561

Migdal, A. B.—Phase transition in nuclear matter and non-pair nuclear forces (T)—A. B. Migdal. 36(6), 1052–5 (Jun. 1973); CPM-7312F0388

Mikhailova, Yu. V.—Calculation of the Collision Cross Sections for Slow Excited Atoms and Molecules (T)—L. P. Kudrin and Yu. V. Mikhailova. 36(1), 33–8 (Jan. 1973); CPM-7305D0567

Mikhailovskii, I. M.—Field–Ion–Microscopic Study of Interstitial Plasticity of Tungsten Microcrystals (E/T)—I. M. Mikhailovskii and Zh. I. Dranova. 36(2), 300–3 (Feb. 1973); CPM-7307E0874

—Field Ion Microscopic Study of the Microstructure of Superconducting Deformable Niobium Alloys (E)—R. I. Garber, B. G. Lazarev, L. S. Lazareva, I. M. Mikhailovskii and N. N. Sidorenko. 36(4), 718–20 (Apr. 1973); CPM-7310E0868

Mill', B. V.—Mössbauer Effect in Antiferromagnetic Substances with Garnet Structures (E/T)—A. P. Dodokin, I. S. Lyubutin, B. V. Mill' and V. P. Peshkov. 36(3), 526–30 (Mar. 1973); CPM-7309D0526

Milov, A. D.—Effect of spin dipole–dipole interaction on phase relaxation in magnetically dilute solid bodies (T)—A. D. Milov, K. M. Salikhov and Yu. D. Tsvetkov. 36(6), 1229–32 (Jun. 1973); CPM-7312F0565

Mineev, V. P.—Vacancies in quantum crystals (T)—V. P. Mineev. 36(5), 964–8 (May 1973); CPM-7311E0706

Mityagin, A. Yu.—Some features of the Auger electron spectrum in the interaction between oxygen and the (111) surface of GaP (E)—A. Yu. Mityagin, V. P. Orlov, K. A. Khronopulo and N. Ya. Cherevatskii. 36(5), 906–8 (May 1973); CPM-7311E0648

Mkheidze, G. P.—Space–Charge Limited Current of an Uncompensated Relativistic Electron Beam (E)—G. P. Mkheidze, V. I. Pulin, M. D. Raizer and L. É. Tsopp. 36(1), 54–5 (Jan. 1973); CPM-7305D0588

Mkhitarian, A. Kh.—Emission of Light by Metals Bombarded by Nonrelativistic Electrons (E)—F. R. Arutyunyan, A. Kh. Mkhitarian, R. A. Oganesyan, B. O. Rostomyan and E. K. Khanikyan. 36(4), 607–10 (Apr. 1973); CPM-7310E0757

Mkrtychyan, G. S.—Interaction Between a Vortex and the Boundary Between Two Superconductors (T)—G. S. Mkrtychyan, F. R. Shakirzyanova, E. A. Shapoval and V. V. Shmidt. 36(2), 352–3 (Feb. 1973); CPM-7307E0926

Mnatsakanov, T. T.—Role of Anisotropy in Exciton Transitions (T)—L. P. Gor'kov and T. T. Mnatsakanov. 36(2), 361–4 (Feb. 1973); CPM-7307E0935

Morozov, Yu. A.—Some Features of Large–Angle Elastic Electron–Atom Scattering at Intermediate Energies (T)—V. V. Rumyantsev, Yu. A. Morozov and B. N. Libenson. 36(4), 643–5 (Apr. 1973); CPM-7310E0793

Moskovin, Yu. L.—Kinetics of a Pulsed Chemical Carbon Monoxide Laser with Photoinitiated Oxidation of Carbon Disulfide (E/T)—E. B. Gordon, V. S. Pavlenko, Yu. L. Moskovin, M. S. Drozdov, P. S. Vinogradov and V. L. Tal'roze. 36(4), 611–8 (Apr. 1973); CPM-7310E0761

Motulevich, G. P.—Optical Constants and Electronic Characteristics of Titanium (E)—I. D. Mash and G. P. Motulevich. 36(3), 516–20 (Mar. 1973); CPM-7309D0516

—Investigation of Tunnel Characteristics of Sputtered Superconducting Nb₃Sn Films (E)—S. I. Vedeneev, A. I. Golovashkin, I. S. Levchenko and G. P. Motulevich. 36(3), 531–5 (Mar. 1973); CPM-7309D0531

Mukhamadiev, Kh.—Determination of the Ratio of the Proton and Deuteron Nuclear Magnetic Moments (E)—D. M. Kaminker, Yu. I. Neronov, Kh. Mukhamadiev and A. I. Pautov. 36(2), 208–11 (Feb. 1973); CPM-7307E0782

N

Naberezhnikh, V. P.—The Spectrum and Excitation of Electromagnetic Waves in Bismuth in the Region of Hole Cyclotron Resonances (E/T)—V. P. Naberezhnikh, D. E. Zherebchevskii and V. L. Mel'nik. 36(1), 89–95 (Jan. 1973); CPM-7305D0623

Nadezhin, D. K.—Neutrino thermal conductivity in collapsing stars (T)—V. S. Imshennik and D. K. Nadezhin. 36(5), 821–7 (May 1973); CPM-7311E0563

Nagibarov, V. R.—Theory of Radiation from a System of Weakly Interacting Particles (T)—O. N. Gadomskii, V. R. Nagibarov and N. K. Solovarov. 36(3), 426–9 (Mar. 1973); CPM-7309D0426

Narozhnyi, N. B.—Electron–Positron Pair Production by a Coulomb Center Located in a Constant Field (T)—N. B. Narozhnyi and A. I. Nikishov. 36(4), 598–601 (Apr. 1973); CPM-7310E0748

Nazarov, N. I.—Combined Heating of a Plasma by an Electron Beam and an Intense Ion–Cyclotron Wave (E)—A. S. Bakai, A. I. Ermakov, S. S. Krivulya, N. I. Nazarov and V. T. Tolok. 36(4), 651–3 (Apr. 1973); CPM-7310E0801

Nechitaïlo, V. S.—The Role of Absorbing Impurities in Laser–Induced Damage of Transparent Dielectrics (T/E)—Yu. K. Danileiko, A. A. Manenkov, V. S. Nechitaïlo, A. M. Prokhorov and V. Ya. Khaimov–Mal'kov. 36(3), 541–3 (Mar. 1973); CPM-7309D0541

Neronov, Yu. I.—Determination of the Ratio of the Proton and Deuteron Nuclear Magnetic Moments (E)—D. M. Kaminker, Yu. I. Neronov, Kh. Mukhamadiev and A. I. Pautov. 36(2), 208–11 (Feb. 1973); CPM-7307E0782

Nikishov, A. I.—Electron–Positron Pair Production by a Coulomb Center Located in a Constant Field (T)—N. B. Narozhnyi and A. I. Nikishov. 36(4), 598–601 (Apr. 1973); CPM-7310E0748

Nikitin, Yu. P.—Electromagnetic Radiation in a Moving Medium (T)—A. I. Alekseev and Yu. P. Nikitin. **36**(4), 629–30 (Apr. 1973); CPM-7310E0779

Nikolaev, B. I.—Effect of Periodic Variation of the Coefficient of Heat Transfer in the Knudsen Molecular Gas Placed in Magnetic Field (E)—V. D. Borman, V. S. Laz'ko and B. I. Nikolaev. **36**(3), 466–7 (Mar. 1973); CPM-7309D0466

Nikolaev, F. A.—Fluctuation Characteristics of a Dense Plasma of High Current Discharges Produced by Electric Explosion of Metallic Wires (E/T)—F. A. Nikolaev, Yu. V. Novitskii, V. B. Rozanov and Yu. P. Sviridenko. **36**(3), 444–8 (Mar. 1973); CPM-7309D0444

Norinskii, L. V.—Optically initiated directional electrical breakdown in gas (E)—L. V. Norinskii, V. A. Pryadein and L. A. Rivlin. **36**(5), 872–3 (May 1973); CPM-7311E0614

Nosov, V. G.—Structure of residual interaction in spherical nuclei (T)—A. M. Kamchatnov and V. G. Nosov. **36**(6), 1036–44 (Jun. 1973); CPM-7312F0372

Novikov, I. D.—Gravitational synchrotron radiation (T)—A. G. Doroshkevich, I. D. Novikov and A. G. Polnarev. **36**(5), 816–20 (May 1973); CPM-7311E0558

Novitskii, Yu. V.—Fluctuation Characteristics of a Dense Plasma of High Current Discharges Produced by Electric Explosion of Metallic Wires (E/T)—F. A. Nikolaev, Yu. V. Novitskii, V. B. Rozanov and Yu. P. Sviridenko. **36**(3), 444–8 (Mar. 1973); CPM-7309D0444

Novobrantsev, I. V.—Mechanism of gas ionization by an intense electron beam (E)—S. S. Kingsep, I. V. Novobrantsev, L. I. Rudakov, V. P. Smirnov and A. M. Spektor. **36**(6), 1125–8 (Jun. 1973); CPM-7312F0461

O

Oganesyan, R. A.—Emission of Light by Metals Bombarded by Nonrelativistic Electrons (E)—F. R. Arutyunyan, A. Kh. Mkhitaryan, R. A. Oganesyan, B. O. Rostomyan and E. K. Khanikyants. **36**(4), 607–10 (Apr. 1973); CPM-7310E0757

Oganes'Yants, L. G.—Structure of Three-Component Vector Fields in Self-Focusing Waveguides (T)—V. M. Eleonskii, L. G. Oganes'Yants and V. P. Silin. **36**(2), 282–5 (Feb. 1973); CPM-7307E0856

Oleinik, V. P.—Long-range four-particle correlations at the critical point (T)—N. P. Malomuzh, V. P. Oleinik and I. Z. Fisher. **36**(6), 1233–8 (Jun. 1973); CPM-7312F0569

Onishchenko, I. N.—Appearance of Turbulence during the Interaction of a "Monoenergetic" Beam with a Plasma (T)—N. G. Matsiborko, I. N. Onishchenko, Ya. B. Fainberg, V. D. Shapiro and V. I. Shevchenko. **36**(3), 460–5 (Mar. 1973); CPM-7309D0460

Orlov, V. P.—Some features of the Auger electron spectrum in the interaction between oxygen and the (111) surface of GaP (E)—A. Yu. Mityagin, V. P. Orlov, K. A. Khranopulo and N. Ya. Cherevatskii. **36**(5), 906–8 (May 1973); CPM-7311E0648

Osiko, V. V.—Investigation of the Elementary Cross-Relaxation Act of the Nd³⁺ Ion Excited State in Crystals (T)—Yu. K. Voron'ko, V. V. Osiko and I. A. Shcherbakov. **36**(2), 365–7 (Feb. 1973); CPM-7307E0939

Osip'yan, Yu. A.—Nature of the photoplastic effect (T/E)—Yu. A. Osip'yan and V. F. Petrenko. **36**(5), 916–20 (May 1973); CPM-7311E0658

Ovchinnikova, T. L.—Transitions due to spin reorientation in a Ho_{0.5}Dy_{0.5}FeO₃ single crystal (E)—K. P. Belov, A. M. Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchi and A. Ya. Chervonenkis. **36**(6), 1136–7 (Jun. 1973); CPM-7312F0472

Ozhogin, V. I.—Hard excitation of magnons in parallel pumping in an antiferromagnetic substance (E)—V. I. Ozhogin and A. Yu. Yakubovskii. **36**(6), 1138–9 (Jun. 1973); CPM-7312F0474

P

Panova, G. Kh.—Change of the Vanadium Phonon Spectrum Following Introduction of Tantalum Admixtures (E/T)—N. A. Chernoplekov, G. Kh. Panova, B. N. Samoilov and A. A. Shikov. **36**(4), 731–5 (Apr. 1973); CPM-7310E0881

Parail, V. V.—Nonlinear theory of the interaction between a monoenergetic beam and a dense plasma (T)—A. A. Ivanov, V. V. Parail and T. K. Soboleva. **36**(5), 887–90 (May 1973); CPM-7311E0629

Pariiskaya, L. V.—Ion Acceleration Upon Expansion of a Rarefied Plasma (T/E)—A. V. Gurevich, L. V. Pariiskaya and L. P. Pitaevskii. **36**(2), 274–81 (Feb. 1973); CPM-7307E0848

Patashinskii, A. Z.—Isomorphism of Critical Phenomena (T)—A. Z. Patashinskii, V. L. Pokrovskii and S. B. Khokhachev. **36**(4), 807–8 (Apr. 1973); CPM-7310E0957

Pautov, A. I.—Determination of the Ratio of the Proton and Deuteron Nuclear Magnetic Moments (E)—D. M. Kaminker, Yu. I. Neronov, Kh. Mukhamadiev and A. I. Pautov. **36**(2), 208–11 (Feb. 1973); CPM-7307E0782

Pavlenko, V. S.—Kinetics of a Pulsed Chemical Carbon Monoxide Laser with Photoinitiated Oxidation of Carbon Disulfide (E/T)—E. B. Gordon, V. S. Pavlenko, Yu. L. Moskin, M. S. Drozdov, P. S. Vinogradov and V. L. Tal'roze. **36**(4), 611–8 (Apr. 1973); CPM-7310E0761

Pavlov, S. T.—Theory of Electron Dragging by Phonons in a Magnetic Field (T)—I. G. Lang and S. T. Pavlov. **36**(4), 793–6 (Apr. 1973); CPM-7310E0943

Ped'ko, A. V.—Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcongenide Spinel CdCr₂S₄ (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. **36**(4), 697–8 (Apr. 1973); CPM-7310E0847

Pekar, S. I.—Theory of Polaron in Many-Valley Crystals. II. Strong Interactions between an Electron and the Polarization Oscillations of the Lattice (T)—S. I. Pekar, V. I. Sheka and G. V. Dmitrenko. **36**(4), 771–3 (Apr. 1973); CPM-7310E0921

Peregudov, G. V.—Energy and Time Characteristics of Stimulated Raman Scattering of Light in Disperse Medium at Various Temperatures (E/T)—G. V. Peregudov, E. N. Ragozin and V. A. Chirkov. **36**(2), 223–7 (Feb. 1973); CPM-7307E0797

Perekalina, T. M.—Nature of Magnetic Anisotropy of Dysprosium. Paramagnetic Susceptibility of Dysprosium–Gadolinium Alloys (E)—R. Z. Levitin, T. M. Perekalina, L. P. Shlyakhina, O. D. Chistyakov and V. L. Yakovenko. **36**(4), 742–6 (Apr. 1973); CPM-7310E0892

Perel', V. I.—Hyperfine interaction in optical orientation of electrons in semiconductors (T)—M. I. Dyakonov and V. I. Perel'. **36**(5), 995–1000 (May 1973); CPM-7311E0737

Perel'man, N. F.—Contribution of Collisions to Multiphoton Resonances in Gases (T)—N. F. Perel'man and V. A. Kovarskii. **36**(3), 436–9 (Mar. 1973); CPM-7309D0436

Perminov, A. P.—Change in the Hyperfine State of the Hydrogen Atom During its Collisions with Unsaturated Hydrocarbon Molecules in the Gaseous State (E)—E. B. Gordon, A. P. Perminov, B. I. Ivanov, V. I. Matyushenko, A. N. Ponomarev and V. L. Tal'Roze. **36**(2), 212–5 (Feb. 1973); CPM-7307E0786

Perov, A. P.—Impedance of Tin in a Strong Magnetic Field and Scattering of Conductivity Electrons by the Metal Surface (E)—A. P. Perov. **36**(4), 699–705 (Apr. 1973); CPM-7310E0849

Peshkov, V. P.—Mössbauer Effect in Antiferromagnetic Substances with Garnet Structures (E/T)—A. P. Dodokin, I. S. Lyubutin, B. V. Mill' and V. P. Peshkov. **36**(3), 526–30 (Mar. 1973); CPM-7309D0526

—Vapor Pressure of Hd³–He⁴ Mixtures in the 0.7–1.3° K Temperature Range (E/T)—V. L. Vvedenskii and V. P. Peshkov. **36**(4), 721–4 (Apr. 1973); CPM-7310E0871

—Electric and Magnetic Hyperfine Interactions of Fe⁵⁷ Nuclei in a Fe²⁺₃Al₂Si₃O₁₂ Crystal near the Neel Point (E/T)—A. P. Dodokin, I. S. Lyubutin, L. M. Belyaev and V. P. Peshkov. **36**(4), 738–41 (Apr. 1973); CPM-7310E0888

—The radio-electric effect in a strong magnetic field (T)—M. I. Kaganov and V. P. Peshkov. **36**(6), 1210–3 (Jun. 1973); CPM-7312F0546

Petrenko, V. F.—Nature of the photoplastic effect (T/E)—Yu. A. Osip'yan and V. F. Petrenko. **36**(5), 916–20 (May 1973); CPM-7311E0658

Petrenko, V. V.—Acoustic Wave Excitation in Metals by Fast Charged Particles and Gamma Quanta (E)—I. A. Borshkovskii, V. D. Volovik, I. A. Grishaev, I. I. Zalyubovskii, V. V. Petrenko, G. A. Chekhutskii and G. L. Fursov. **36**(4), 706–8 (Apr. 1973); CPM-7310E0856

Petrov, M. P.—Exchange interactions and spin noncollinearity in hexagonal ferrites (E)—M. P. Petrov and A. V. Kunovich. **36**(6), 1184–8 (Jun. 1973); CPM-7312F0520

Petrov, Yu. V.—Multiple Acceleration of Neutrons in an Inversely Populated Medium (T)—Yu. V. Petrov. **36**(3), 395–8 (Mar. 1973); CPM-7309D0395

Petrova, L. N.—Matthiessen rule and high-temperature electrical resistivity of solid solutions of silicon in iron (E/T)—V. E. Zinov'ev, Sh. Sh. Abel'skii, M. I. Sandakova, L. N. Petrova and P. V. Gel'd. 36(6), 1174–6 (Jun. 1973); CPM-7312F0510

Petukhov, B. V.—Quantum and Classical Motion of Dislocations in a Peierls Potential Relief (T)—B. V. Petukhov and V. L. Pokrovskii. 36(2), 336–42 (Feb. 1973); CPM-7307E0910

Pikin, S. A.—Turbulent Flow of Liquid Crystals in an Electric Field (T)—S. A. Pikin. 36(3), 588–90 (Mar. 1973); CPM-7309D0588

Pisarev, A. F.—A new particle detector—the crystal filament counter (E)—A. F. Pisarev, V. F. Pisarev and G. S. Revenko. 36(5), 828–34 (May 1973); CPM-7311E0570

Pisarev, V. F.—A new particle detector—the crystal filament counter (E)—A. F. Pisarev, V. F. Pisarev and G. S. Revenko. 36(5), 828–34 (May 1973); CPM-7311E0570

Pis'mennyi, V. D.—Nuclear pumping in molecular gas lasers (T)—V. M. Andriyakhin, V. V. Vasil'тов, S. S. Krasil'nikov and V. D. Pis'mennyi. 36(5), 865–9 (May 1973); CPM-7311E0607

Pitaevskii, L. P.—Ion Acceleration Upon Expansion of a Rarefied Plasma (T/E)—A. V. Gurevich, L. V. Pariiskaya and L. P. Pitaevskii. 36(2), 274–81 (Feb. 1973); CPM-7307E0848

Pokatilov, V. S.—Ferromagnetic Resonance in Bulky γ -Fe–Ni Alloys (E)—V. S. Pokatilov and I. M. Puzei. 36(1), 108–11 (Jan. 1973); CPM-7305D0642

Pokrovskii, B. I.—Exchange Interactions and Canted Spin Configurations in $MnFe_{2-x}Cr_xO_4$ (E)—T. V. Dmitrieva, I. S. Lyubutin, B. I. Pokrovskii and N. D. Bondareva. 36(4), 709–13 (Apr. 1973); CPM-7310E0859

Pokrovskii, V. L.—Quantum and Classical Motion of Dislocations in a Peierls Potential Relief (T)—B. V. Petukhov and V. L. Pokrovskii. 36(2), 336–42 (Feb. 1973); CPM-7307E0910

—Isomorphism of Critical Phenomena (T)—A. Z. Patashinskii, V. L. Pokrovskii and S. B. Khokhlachev. 36(4), 807–8 (Apr. 1973); CPM-7310E0957

Polnarev, A. G.—Gravitational synchrotron radiation (T)—A. G. Doroshkevich, I. D. Novikov and A. G. Polnarev. 36(5), 816–20 (May 1973); CPM-7311E0558

Poluéktov, I. A.—Kinetic Processes in a Laser Plasma (T)—Yu. V. Afanas'ev, É. M. Belenov, O. N. Krokhin and I. A. Poluéktov. 36(1), 64–8 (Jan. 1973); CPM-7305D0598

Polyakov, A. M.—The Influence of Strong Interactions on Vacuum Polarization (T)—A. M. Polyakov. 36(1), 12–7 (Jan. 1973); CPM-7305D0546

Polyanskii, A. M.—Inelastic Energy Loss and Ionization in Excitation of Outer and Inner Electron Shells During Atomic Collisions (E)—V. V. Afrosimov, Yu. S. Gordeev, A. M. Polyaniskii and A. P. Shergin. 36(3), 418–25 (Mar. 1973); CPM-7309D0418

Pomirchi, L. M.—Transitions due to spin reorientation in a $Ho_{0.5}Dy_{0.5}FeO_3$ single crystal (E)—K. P. Belov, A. M. Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchi and A. Ya. Chervonenkis. 36(6), 1136–7 (Jun. 1973); CPM-7312F0472

Ponomarev, A. N.—Change in the Hyperfine State of the Hydrogen Atom During its Collisions with Unsaturated Hydrocarbon Molecules in the Gaseous State (E)—E. B. Gordon, A. P. Perminov, B. I. Ivanov, V. I. Matyushenko, A. N. Ponomarev and V. L. Tal'Roze. 36(2), 212–5 (Feb. 1973); CPM-7307E0786

Ponomarev, B. K.—Investigation of the Antiferro-Ferromagnetism Transition in an FeRh Alloy in a Pulsed Magnetic Field up to 300 kOe (E)—B. K. Ponomarev. 36(1), 105–7 (Jan. 1973); CPM-7305D0639

Ponomarev, L. I.—Calculation of the $\mu + He^{++}$ Reaction (T)—A. V. Matveenko and L. I. Ponomarev. 36(1), 24–6 (Jan. 1973); CPM-7305D0558

Popov, A. F.—Investigation of the mechanism of heating of the plasma electron component under two-stream instability conditions in a mirror trap (E)—R. A. Demirkhanov, A. K. Gevorkov, A. F. Popov and O. A. Kolmakov. 36(5), 874–9 (May 1973); CPM-7311E0616

Popov, V. N.—Damping of Long-Wave Plasma Oscillations (T)—V. S. Kapitonov and V. N. Popov. 36(1), 75–7 (Jan. 1973); CPM-7305D0609

Popov, V. S.—The "imaginary-time" method in problems concerning the ionization of atoms and pair production (T)—V. S. Popov. 36(5), 840–6 (May 1973); CPM-7311E0582

Potapov, V. S.—Asymptotic Cross Section for Electron Capture by Fast Protons Molecular Hydrogen and Helium (T)—V. S. Potapov. 36(2), 228–34 (Feb. 1973); CPM-7307E0802

—Asymptotic form of the amplitude of the inelastic scattering of fast electrons by hydrogen atoms (T)—V. S. Potapov. 36(6), 1105–10 (Jun. 1973); CPM-7312F0441

Povitskii, V. A.—Effect of Radio-Frequency Magnetic Reversal on the γ -Resonance Spectra of Ferromagnets (T/E)—Yu. V. Baldokhin, S. A. Borshch, L. M. Klinger and V. A. Povitskii. 36(2), 374–6 (Feb. 1973); CPM-7307E0948

Prokhorov, A. M.—Evaporation of Metallic Targets Caused by Intense Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(2), 311–22 (Feb. 1973); CPM-7307E0885

—The Role of Absorbing Impurities in Laser-Induced Damage of Transparent Dielectrics (T/E)—Yu. K. Danileiko, A. A. Manenkov, V. S. Nechitailo, A. M. Prokhorov and V. Ya. Khaimov-Mal'kov. 36(3), 541–3 (Mar. 1973); CPM-7309D0541

—Gas-Dynamic Structures of a Plasma Flare Produced During the Evaporation of Metals by High-Intensity Optical Radiation (E/T)—V. A. Batanov, F. V. Bunkin, A. M. Prokhorov and V. B. Fedorov. 36(4), 654–8 (Apr. 1973); CPM-7310E0804

Pronkin, D. V.—Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. 36(6), 1155–60 (Jun. 1973); CPM-7312F0491

Provorov, A. S.—Effect of collisions on the shape of the neon spectral lines (E)—Yu. A. Matyugin, A. S. Provorov and V. P. Chebotaev. 36(6), 1080–90 (Jun. 1973); CPM-7312F0416

Prozorova, L. A.—Parametric excitation of spin waves in ferromagnetic $MnCO_3$ (E)—V. V. Kveder, B. Ya. Kotyuzhanskiy and L. A. Prozorova. 36(6), 1165–9 (Jun. 1973); CPM-7312F0501

Pryadein, V. A.—Optically initiated directional electrical breakdown in gas (E)—L. V. Norinskii, V. A. Pryadein and L. A. Rivlin. 36(5), 872–3 (May 1973); CPM-7311E0614

Pukhov, A. A.—Effect of Selective Collisions on the Velocity Distribution of Atoms and on Nonlinear Interference Effects (T)—A. P. Kolchenko, A. A. Pukhov, S. G. Rautian and A. M. Shalagin. 36(4), 619–28 (Apr. 1973); CPM-7310E0769

Pulin, V. I.—Space-Charge Limited Current of an Uncompensated Relativistic Electron Beam (E)—G. P. Mkheidze, V. I. Pulin, M. D. Raizer and L. É. Tsopp. 36(1), 54–5 (Jan. 1973); CPM-7305D0588

Pustovalov, V. V.—Statistical Theory of the Polarizability of Atoms and Ions (T/E)—A. V. Vinogradov, V. V. Pustovalov and V. P. Shevel'ko. 36(2), 252–4 (Feb. 1973); CPM-7307E0826

—Second-Harmonic Generation in an Inhomogeneous Laser Plasma (T)—A. V. Vinogradov and V. V. Pustovalov. 36(3), 492–7 (Mar. 1973); CPM-7309D0492

Puzei, I. M.—Ferromagnetic Resonance in Bulky γ -Fe–Ni Alloys (E)—V. S. Pokatilov and I. M. Puzei. 36(1), 108–11 (Jan. 1973); CPM-7305D0642

R

Rabinovich, M. I.—High-frequency instability of an electromagnetic wave in a nonequilibrium magnetized plasma (T)—M. I. Rabinovich and S. M. Fainshtein. 36(5), 884–6 (May 1973); CPM-7311E0626

Ragozin, E. N.—Energy and Time Characteristics of Stimulated Raman Scattering of Light in Disperse Medium at Various Temperatures (E/T)—G. V. Peregudov, E. N. Ragozin and V. A. Chirkov. 36(2), 223–7 (Feb. 1973); CPM-7307E0797

Raizer, M. D.—Space-Charge Limited Current of an Uncompensated Relativistic Electron Beam (E)—G. P. Mkheidze, V. I. Pulin, M. D. Raizer and L. É. Tsopp. 36(1), 54–5 (Jan. 1973); CPM-7305D0588

Rautian, S. G.—Effect of Selective Collisions on the Velocity Distribution of Atoms and on Nonlinear Interference Effects (T)—A. P. Kolchenko, A. A. Pukhov, S. G. Rautian and A. M. Shalagin. 36(4), 619–28 (Apr. 1973); CPM-7310E0769

Remizovich, V. S.—Ionization loss of heavy nonrelativistic particles in matter (E/T)—V. S. Remizovich. 36(5), 847–51 (May 1973); CPM-7311E0589

Revenko, G. S.—A new particle detector—the crystal filament counter (E)—A. F. Pisarev, V. F. Pisarev and G. S. Revenko. 36(5), 828–34 (May 1973); CPM-7311E0570

Rivlin, L. A.—Optically initiated directional electrical breakdown in gas (E)—L. V. Norinskii, V. A. Pryadein and L. A. Rivlin. **36**(5), 872–3 (May 1973); CPM-7311E0614

Rochev, V. Ya.—Determination of the dynamical and structural characteristics of liquid crystal from Mössbauer spectra (T)—V. G. Gol'danskii, O. P. Kevdin, N. K. Kivrina, E. F. Makarov, V. Ya. Rochev and R. A. Stukan. **36**(6), 1226–8 (Jun. 1973); CPM-7312F0562

Rodionov, Yu. F.—New Data on Alpha Decay of ^{253}Es and the Energy Levels of the ^{249}Bk and ^{250}Bk Nuclei (E)—S. A. Baranov, V. M. Shatinskii, V. M. Kulakov and Yu. F. Rodionov. **36**(2), 199–203 (Feb. 1973); CPM-7307E0773

Rostomyan, B. O.—Emission of Light by Metals Bombarded by Nonrelativistic Electrons (E)—F. R. Arutyunyan, A. Kh. Mkhitarian, R. A. Oganesyan, B. O. Rostomyan and E. K. Khanikants. **36**(4), 607–10 (Apr. 1973); CPM-7310E0757

Rozanov, N. N.—Pulsations of the radiation from a laser with frequency dispersion (T)—N. N. Rozanov. **36**(6), 1074–9 (Jun. 1973); CPM-7312F0410

Rozanov, V. B.—Fluctuation Characteristics of a Dense Plasma of High Current Discharges Produced by Electric Explosion of Metallic Wires (E/T)—F. A. Nikolaev, Yu. V. Novitskii, V. B. Rozanov and Yu. P. Sviridenko. **36**(3), 444–8 (Mar. 1973); CPM-7309D0444

Rudakov, L. I.—Mechanism of gas ionization by an intense electron beam (E)—S. S. Kingsep, I. V. Novobrantsev, L. I. Rudakov, V. P. Smirnov and A. M. Spektor. **36**(6), 1125–8 (Jun. 1973); CPM-7312F0461

Rudenko, N. S.—Electric Breakdown in Large Neon Gaps Under Conditions of Preliminary Ionization (E)—N. S. Rudenko and V. I. Smetanin. **36**(2), 260–3 (Feb. 1973); CPM-7307E0834

Rukhadze, A. A.—Limiting Currents in Compensated Electron Beams with a Relativistic Energy Spread (T)—L. S. Bogdanovich and A. A. Rukhadze. **36**(3), 473–5 (Mar. 1973); CPM-7309D0473

—Nonlinear Plasma Ion Oscillations Excited by a Current (E/T)—E. Abu-Asali, B. A. Al'Terkop and A. A. Rukhadze. **36**(4), 682–5 (Apr. 1973); CPM-7310E0832

Rumyantsev, B. M.—New type of magnetically sensitive fluorescence produced by excitation of tetracene on the surface of an anthracene crystal (E)—E. L. Frankevich and B. M. Rumyantsev. **36**(6), 1064–8 (Jun. 1973); CPM-7312F0400

Rumyantsev, V. V.—Some Features of Large-Angle Elastic Electron-Atom Scattering at Intermediate Energies (T)—V. V. Rumyantsev, Yu. A. Morozov and B. N. Libenson. **36**(4), 643–5 (Apr. 1973); CPM-7310E0793

Rusinov, A. I.—Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. **36**(6), 1155–60 (Jun. 1973); CPM-7312F0491

Ryabov, E. A.—Luminescence of a molecular gas under the action of CO_2 laser pulses (E)—V. S. Letokhov, E. A. Ryabov and O. A. Tumanov. **36**(6), 1069–73 (Jun. 1973); CPM-7312F0405

Ryabov, V. A.—Multiple Scattering of Channeled Particles (T/E)—V. A. Ryabov. **36**(3), 577–82 (Mar. 1973); CPM-7309D0577

Ryazanov, M. I.—Elastic Scattering of Fast Charged Particles in a Single Crystal (T)—N. P. Kalashnikov, É. A. Koptelov and M. I. Ryazanov. **36**(3), 583–7 (Mar. 1973); CPM-7309D0583

Ryl'nikov, A. S.—Hyperfine Broadening of the X-Ray Lines (E)—A. S. Ryl'nikov, A. I. Egorov, G. A. Ivanov, V. I. Marushenko, A. F. Mezentsev, A. I. Smirnov, O. I. Sumbaev and V. V. Fedorov. **36**(1), 27–32 (Jan. 1973); CPM-7305D0561

Ryzhii, V. I.—Collective Relaxation of Nonequilibrium Photoelectrons in Quantized Magnetic Fields (T)—A. A. Ivanov and V. I. Ryzhii. **36**(4), 803–6 (Apr. 1973); CPM-7310E0953

S

Sakhnenko, V. P.—Features of phase transitions associated with two- and three-component order parameters (T)—Yu. M. Gufan and V. P. Sakhnenko. **36**(5), 1009–14 (May 1973); CPM-7311E0751

Saksonov, Yu. G.—Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcongenide Spinel CdCr_2S_4 (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. **36**(4), 697–8 (Apr. 1973); CPM-7310E0847

Salikhov, K. M.—Effect of spin dipole-dipole interaction on phase relaxation in magnetically dilute solid bodies (T)—A. D. Milov, K. M. Salikhov and Yu. D. Tsvetkov. **36**(6), 1229–32 (Jun. 1973); CPM-7312F0565

Samoilov, B. N.—Change of the Vanadium Phonon Spectrum Following Introduction of Tantalum Admixtures (E/T)—N. A. Chernoplekov, G. Kh. Panova, B. N. Samoilov and A. A. Shikov. **36**(4), 731–5 (Apr. 1973); CPM-7310E0881

Sandakova, M. I.—Matthiessen rule and high-temperature electrical resistivity of solid solutions of silicon in iron (E/T)—V. E. Zinov'ev, Sh. Sh. Abel'skii, M. I. Sandakova, L. N. Petrova and P. V. Gel'd. **36**(6), 1174–6 (Jun. 1973); CPM-7312F0510

Sanikidze, J. G.—Absorption of fourth sound in He II near the λ point (T)—J. G. Sanikidze. **36**(5), 1015–6 (May 1973); CPM-7311E0757

Sarksyan, K. A.—Excitation of Parametric Instabilities in a Magnetoactive Plasma by a Microwave Pumping Wave (E)—N. E. Andreev, G. M. Batanov and K. A. Sarksyan. **36**(4), 659–62 (Apr. 1973); CPM-7310E0809

Sbytov, Yu. G.—Collision between an Electromagnetic Wave and a Gravitational Wave Packet (T)—Yu. G. Sbytov. **36**(3), 387–90 (Mar. 1973); CPM-7309D0387

Senashenko, V. S.—A unified description of the resonance line profile in the energy spectra of scattered and emitted electrons (T)—V. V. Balashov, S. S. Lipovetskii and V. S. Senashenko. **36**(5), 858–60 (May 1973); CPM-7311E0600

Shakiryanova, F. R.—Interaction Between a Vortex and the Boundary Between Two Superconductors (T)—G. S. Mkrtchyan, F. R. Shakiryanova, E. A. Shapoval and V. V. Shmidt. **36**(2), 352–3 (Feb. 1973); CPM-7307E0926

Shalagin, A. M.—Effect of Selective Collisions on the Velocity Distribution of Atoms and on Nonlinear Interference Effects (T)—A. P. Kolchenko, A. A. Pukhov, S. G. Rautian and A. M. Shalagin. **36**(4), 619–28 (Apr. 1973); CPM-7310E0769

Shapiro, S. G.—Calculation of the Multipole Polarizabilities and van der Waals Constants for Noble Gas Atoms (T)—M. Ya. Amus'ya, N. A. Cherepkov and S. G. Shapiro. **36**(3), 468–72 (Mar. 1973); CPM-7309D0468

Shapiro, V. D.—Appearance of Turbulence during the Interaction of a "Monoenergetic" Beam with a Plasma (T)—N. G. Matsiborko, I. N. Onishchenko, Ya. B. Fainberg, V. D. Shapiro and V. I. Shevchenko. **36**(3), 460–5 (Mar. 1973); CPM-7309D0460

Shapoval, E. A.—Interaction Between a Vortex and the Boundary Between Two Superconductors (T)—G. S. Mkrtchyan, F. R. Shakiryanova, E. A. Shapoval and V. V. Shmidt. **36**(2), 352–3 (Feb. 1973); CPM-7307E0926

Shatinskii, V. M.—New Data on Alpha Decay of ^{253}Es and the Energy Levels of the ^{249}Bk and ^{250}Bk Nuclei (E)—S. A. Baranov, V. M. Shatinskii, V. M. Kulakov and Yu. F. Rodionov. **36**(2), 199–203 (Feb. 1973); CPM-7307E0773

Shaulov, A. Yu.—Investigation of the Formation of Local Concentrations near the Critical Liquid-Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Sklyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. **36**(1), 82–8 (Jan. 1973); CPM-7305D0616

Shaulov, Yu. Kh.—Investigation of the Formation of Local Concentrations near the Critical Liquid-Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Sklyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. **36**(1), 82–8 (Jan. 1973); CPM-7305D0616

Shchedrin, A. I.—Kadomtsev-Nedospasov Helical Instability in a Strong Pinch Effect in an Electron-Hole Plasma (T)—V. V. Vladimirov and A. I. Shchedrin. **36**(4), 799–802 (Apr. 1973); CPM-7310E0949

Shcheglov, V. I.—Submillimeter Intrinsic Domain-Wall Resonance in Orthoferrites (E)—G. A. Kraftmakher, V. V. Meriakri, A. Ya. Chervonenkis and V. I. Shcheglov. **36**(4), 714–7 (Apr. 1973); CPM-7310E0864

Shchekochikhina, V. V.—Thermodynamic Quantities for Pure Liquids and the Applicability of the Asymptotic Laws near the Critical Point (E/T)—A. V. Voronel', V. G. Gorbunova, V. A. Smirnov, N. G. Shmakov and V. V. Shchekochikhina. **36**(3), 505–13 (Mar. 1973); CPM-7309D0505

S

Sakhnenko, V. P.—Features of phase transitions associated with two- and three-component order parameters (T)—Yu. M. Gufan and V. P. Sakhnenko. **36**(5), 1009–14 (May 1973); CPM-7311E0751

Saksonov, Yu. G.—Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcongenide Spinel CdCr_2S_4 (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. **36**(4), 697–8 (Apr. 1973); CPM-7310E0847

Shcherbakov, I. A.—Investigation of the Elementary Cross-Relaxation Act of the $^{3+}$ Nd Ion Excited State in Crystals (T)—Yu. K. Voron'ko, V. V. Osiko and I. A. Shcherbakov. **36**(2), 365–7 (Feb. 1973); CPM-7307E0939

Sheka, V. I.—Theory of Polarons in Many-Valley Crystals. II. Strong Interactions between an Electron and the Polarization Oscillations of the Lattice (T)—S. I. Pekar, V. I. Sheka and G. V. Dmitrenko. **36**(4), 771–3 (Apr. 1973); CPM-7310E0921

Shekhter, R. I.—Zero Anomalies in the Resistance of a Tunnel Junction Containing Metallic Inclusions in the Oxide Layer (T/E)—R. I. Shekhter. **36**(4), 747–50 (Apr. 1973); CPM-7310E0897

Sherberstov, S. V.—Effect of adsorption on electron emission from metals (E)—A. M. Brodskii, Yu. Ya. Gurevich and S. V. Sherberstov. **36**(5), 948–56 (May 1973); CPM-7311E0690

Shergin, A. P.—Inelastic Energy Loss and Ionization in Excitation of Outer and Inner Electron Shells During Atomic Collisions (E)—V. V. Afrosimov, Yu. S. Gordeev, A. M. Polianskii and A. P. Shergin. **36**(3), 418–25 (Mar. 1973); CPM-7309D0418

Shevchenko, V. I.—Appearance of Turbulence during the Interaction of a "Monoenergetic" Beam with a Plasma (T)—N. G. Matsiborko, I. N. Onishchenko, Ya. B. Fainberg, V. D. Shapiro and V. I. Shevchenko. **36**(3), 460–5 (Mar. 1973); CPM-7309D0460

Shevel'ko, V. P.—Statistical Theory of the Polarizability of Atoms and Ions (T/E)—A. V. Vinogradov, V. V. Pustovalov and V. P. Shevel'ko. **36**(2), 252–4 (Feb. 1973); CPM-7307E0826

Shikin, I. S.—An investigation of gravitational fields in an anisotropic model with matter and neutrinos (T)—I. S. Shikin. **36**(5), 811–5 (May 1973); CPM-7311E0553

Shikin, V. B.—Some properties of electrons in gaseous helium in the presence of a strong magnetic field (T)—L. S. Kukushkin and V. B. Shikin. **36**(5), 969–72 (May 1973); CPM-7311E0711

Shikov, A. A.—Change of the Vanadium Phonon Spectrum Following Introduction of Tantalum Admixtures (E/T)—N. A. Chernoplekov, G. Kh. Panova, B. N. Samoilov and A. A. Shikov. **36**(4), 731–5 (Apr. 1973); CPM-7310E0881

Shil'shtein, S. Sh.—Neutron refraction at individual domain boundaries in a ferromagnet (T)—S. Sh. Shil'shtein, V. A. Somenkov and M. Kalanov. **36**(6), 1170–3 (Jun. 1973); CPM-7312F0506

Shimanskaya, E. T.—The coexistence curve of heptane near the critical point (E)—L. M. Artyukhovskaya, E. T. Shimanskaya and Yu. I. Shimanskii. **36**(6), 1140–2 (Jun. 1973); CPM-7312F0476

Shimanskii, Yu. I.—The coexistence curve of heptane near the critical point (E)—L. M. Artyukhovskaya, E. T. Shimanskaya and Yu. I. Shimanskii. **36**(6), 1140–2 (Jun. 1973); CPM-7312F0476

Shlyakhina, L. P.—Nature of Magnetic Anisotropy of Dysprosium. Paramagnetic Susceptibility of Dysprosium–Gadolinium Alloys (E)—R. Z. Levitin, T. M. Perekalina, L. P. Shlyakhina, O. D. Chistyakov and V. L. Yakovenko. **36**(4), 742–6 (Apr. 1973); CPM-7310E0892

Shmakov, N. G.—Thermodynamic Quantities for Pure Liquids and the Applicability of the Asymptotic Laws near the Critical Point (E/T)—A. V. Voronel', V. G. Gorbunova, V. A. Smirnov, N. G. Shmakov and V. V. Shchekochikhina. **36**(3), 505–13 (Mar. 1973); CPM-7309D0505

—Experimental verification of the isomorphism hypothesis of critical phenomena (E)—M. A. Anisimov, E. E. Gorodetskii and N. G. Shmakov. **36**(6), 1143–50 (Jun. 1973); CPM-7312F0479

Shmidt, V. V.—Interaction Between a Vortex and the Boundary Between Two Superconductors (T)—G. S. Mkrtchyan, F. R. Shakiryanova, E. A. Shapoval and V. V. Shmidt. **36**(2), 352–3 (Feb. 1973); CPM-7307E0926

Shumeiko, V. S.—On the Kinetic Coefficients of a Superfluid Fermi Liquid (T)—V. S. Shumeiko. **36**(2), 330–5 (Feb. 1973); CPM-7307E0904

Shutilov, V. A.—Role of dipole–dipole interactions in acoustic saturation of nuclear spin levels in crystals (E/T)—G. L. Antokolskii, L. N. Fershtat, E. V. Charnaya and V. A. Shutilov. **36**(5), 909–12 (May 1973); CPM-7311E0651

Sidorenko, N. N.—Field Ion Microscopic Study of the Microstructure of Superconducting Deformable Niobium Alloys (E)—R. I. Garber, B. G. Lazarev, L. S. Lazareva, I. M. Mikhailovskii and N. N. Sidorenko. **36**(4), 718–20 (Apr. 1973); CPM-7310E0868

Silin, V. P.—Structure of Three-Component Vector Fields in Self-Focusing Waveguides (T)—V. M. Eleonskii, L. G. Oganes'Yants and V. P. Silin. **36**(2), 282–5 (Feb. 1973); CPM-7307E0856

—Relaxation processes in a parametrically unstable plasma (T)—V. P. Silin. **36**(5), 891–6 (May 1973); CPM-7311E0633

Slyarevskii, V. V.—Energy Analysis of Resonance γ Rays Diffracted by an α -Fe 57 O₃ Single Crystal (E/T)—A. N. Artem'ev, V. V. Slyarevskii, G. V. Smirnov and E. P. Stepanov. **36**(4), 736–7 (Apr. 1973); CPM-7310E0886

Slyarova, A. G.—Investigation of the Formation of Local Concentrations near the Critical Liquid–Gas Point by the Electron Paramagnetic Resonance Technique (E)—A. Yu. Shaulov, N. I. Andreeva, A. G. Slyarova, A. L. Buchachenko, N. S. Enikolopyan and Yu. Kh. Shaulov. **36**(1), 82–8 (Jan. 1973); CPM-7305D0616

Skobov, V. G.—Doppler Shifted Cyclotron Resonance in Cadmium (E/T)—O. V. Konstantinov, V. G. Skobov, V. V. Lavrova, L. M. Fisher and V. A. Yudin. **36**(1), 118–26 (Jan. 1973); CPM-7305D0652

Skvortsov, G. E.—Macroscopic Theory of Fast Processes in Translation-Invariant Systems (T)—G. E. Skvortsov. **36**(2), 266–73 (Feb. 1973); CPM-7307E0840

Slezov, V. V.—Theory of Diffusion Aftereffect (T)—P. A. Bereznjak, I. G. Ivanov and V. V. Slezov. **36**(3), 561–5 (Mar. 1973); CPM-7309D0561

Slin'ko, E. F.—Noise emission by a resonant medium in a strong field (T)—P. S. Landa and E. F. Slin'ko. **36**(5), 852–7 (May 1973); CPM-7311E0594

Smetanin, V. I.—Electric Breakdown in Large Neon Gaps Under Conditions of Preliminary Ionization (E)—N. S. Rudenko and V. I. Smetanin. **36**(2), 260–3 (Feb. 1973); CPM-7307E0834

Smilga, V. P.—Calculation of Intermolecular Interaction Forces between Bodies Separated by a Film of a Strong Electrolyte Solution (T)—V. N. Gorelkin and V. P. Smilga. **36**(4), 761–4 (Apr. 1973); CPM-7310E0911

Smirnov, A. I.—Hyperfine Broadening of the X-Ray Lines (E)—A. S. Ryl'nikov, A. I. Egorov, G. A. Ivanov, V. I. Marushenko, A. F. Mezentsev, A. I. Smirnov, O. I. Sumbaev and V. V. Fedorov. **36**(1), 27–32 (Jan. 1973); CPM-7305D0561

Smirnov, D. F.—Collective effects in spontaneous emission by two atoms (T)—D. F. Smirnov, I. V. Sokolov and E. D. Trifonov. **36**(6), 1111–4 (Jun. 1973); CPM-7312F0447

Smirnov, G. V.—Energy Analysis of Resonance γ Rays Diffracted by an α -Fe 57 O₃ Single Crystal (E/T)—A. N. Artem'ev, V. V. Slyarevskii, G. V. Smirnov and E. P. Stepanov. **36**(4), 736–7 (Apr. 1973); CPM-7310E0886

Smirnov, V. A.—Thermodynamic Quantities for Pure Liquids and the Applicability of the Asymptotic Laws near the Critical Point (E/T)—A. V. Voronel', V. G. Gorbunova, V. A. Smirnov, N. G. Shmakov and V. V. Shchekochikhina. **36**(3), 505–13 (Mar. 1973); CPM-7309D0505

Smirnov, V. P.—Mechanism of gas ionization by an intense electron beam (E)—S. S. Kingsep, I. V. Novobrantsev, L. I. Rudakov, V. P. Smirnov and A. M. Spektor. **36**(6), 1125–8 (Jun. 1973); CPM-7312F0461

Smirnovskaya, E. M.—Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcogenide Spinel CdCr₂S₄ (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. **36**(4), 697–8 (Apr. 1973); CPM-7310E0847

Snigireva, L. K.—Effect of an Electromagnetic Field on Point Josephson Junctions under Strong Fluctuations Conditions (E)—I. M. Dmitrenko, V. I. Karamushko and L. K. Snigireva. **36**(3), 514–5 (Mar. 1973); CPM-7309D0514

Sobel'man, I. I.—Spectral Width of Light Spontaneously Scattered in a Perfect Gas (T)—B. Ya. Zel'Dovich and I. I. Sobel'man. **36**(2), 235–7 (Feb. 1973); CPM-7307E0809

—The problem of laser radiation sources in the far ultraviolet and x-ray regions (T)—A. V. Vinogradov and I. I. Sobel'man. **36**(6), 1115–9 (Jun. 1973); CPM-7312F0451

Sobolev, N. N.—Investigation of the Molecular Scattering of Light in a Sapphire Crystal (E)—I. L. Chistyak, V. F. Kitaeva, N. N. Sobolev and V. P. Bakhar. **36**(4), 783–8 (Apr. 1973); CPM-7310E0933

Soboleva, T. K.—Nonlinear theory of the interaction between a monoenergetic beam and a dense plasma (T)—A. A. Ivanov, V. V. Parail and T. K. Soboleva. **36**(5), 887–90 (May 1973); CPM-7311E0629

Sobyanin, A. A.—Superfluid component density distribution near the HeI–HeII phase interface in external fields (T)—A. A. Sobyanin. **36**(5), 941–7 (May 1973); CPM-7311E0683

Sokolov, I. V.—Collective effects in spontaneous emission by two atoms (T)—D. F. Smirnov, I. V. Sokolov and E. D. Trifonov. **36** (6), 1111–4 (Jun. 1973); CPM-7312F0447

Sokolov, Yu. L.—Interference of the $2p_{1/2}$ State of the Hydrogen Atom (E)—Yu. L. Sokolov. **36**(2), 243–51 (Feb. 1973); CPM-7307E0817

Solovarov, N. K.—Theory of Radiation from a System of Weakly Interacting Particles (T)—O. N. Gadomskii, V. R. Nagibarov and N. K. Solovarov. **36**(3), 426–9 (Mar. 1973); CPM-7309D0426

Somenkov, V. A.—Neutron refraction at individual domain boundaries in a ferromagnet (T)—S. Sh. Shil'shtein, V. A. Somenkov and M. Kalanov. **36**(6), 1170–3 (Jun. 1973); CPM-7312F0506

Somov, S. V.—Low-Pressure Streamer Chamber in a Magnetic Field (E)—N. Z. Anisimova, V. A. Davidenko, B. A. Dolgoshein, S. V. Somov and V. N. Starosel'tsev. **36**(1), 10–1 (Jan. 1973); CPM-7305D0544

Sonin, É. B.—The Superconductor–Excitonic Dielectric Phase Transition in a Semimetal (T)—A. G. Aronov and É. B. Sonin. **36** (3), 556–60 (Mar. 1973); CPM-7309D0556

Spektor, A. M.—Mechanism of gas ionization by an intense electron beam (E)—S. S. Kingsep, I. V. Novobrantsev, L. I. Rudakov, V. P. Smirnov and A. M. Spektor. **36**(6), 1125–8 (Jun. 1973); CPM-7312F0461

Spol'nik, Z. A.—Temperature Magnetoacoustic Resonance in Crystals with an Antiferro-ferromagnetic Transition (E/T)—I. A. Akhiezer, A. É. Ginzburg, L. N. Davydov and Z. A. Spol'nik. **36** (4), 765–6 (Apr. 1973); CPM-7310E0915

Starobinets, S. S.—Resonance Phenomena in a Parametric Spin Wave System (E/T)—V. V. Zautkin, V. S. L'vov and S. S. Starobinets. **36**(1), 96–9 (Jan. 1973); CPM-7305D0630

Starosel'tsev, V. N.—Low-Pressure Streamer Chamber in a Magnetic Field (E)—N. Z. Anisimova, V. A. Davidenko, B. A. Dolgoshein, S. V. Somov and V. N. Starosel'tsev. **36**(1), 10–1 (Jan. 1973); CPM-7305D0544

Starostin, A. N.—Oscillations of a Nondegenerate Plasma in Quantized Magnetic Fields (T)—V. V. Korneev and A. N. Starostin. **36**(3), 487–91 (Mar. 1973); CPM-7309D0487

Starunov, V. S.—Stimulated Entropy (Temperature) Scattering and its Affect on Stimulated Mandel'shtam–Brillouin Scattering (E/T)—Yu. I. Kyzylasov, V. S. Starunov and I. L. Fabelinskii. **36**(2), 216–22 (Feb. 1973); CPM-7307E0790

Stepanov, E. P.—Energy Analysis of Resonance γ Rays Diffracted by an α -Fe₅₇O₃ Single Crystal (E/T)—A. N. Artem'ev, V. V. Sklyarevskii, G. V. Smirnov and E. P. Stepanov. **36**(4), 736–7 (Apr. 1973); CPM-7310E0886

Strakhovenko, V. M.—Radiation emitted by relativistic particles in periodic structures (T)—V. N. Baier, V. M. Katkov and V. M. Strakhovenko. **36**(6), 1120–4 (Jun. 1973); CPM-7312F0456

Straube, E.—Magnetic Anisotropy of Nickel (T/E)—E. I. Kondorskii and E. Straube. **36**(1), 188–93 (Jan. 1973); CPM-7305D0722

Stukan, R. A.—Determination of the dynamical and structural characteristics of liquid crystal from Mössbauer spectra (T)—V. G. Gol'danskii, O. P. Kevdin, N. K. Kivrina, E. F. Makarov, V. Ya. Rochev and R. A. Stukan. **36**(6), 1226–8 (Jun. 1973); CPM-7312F0562

Sumbaev, O. I.—Hyperfine Broadening of the X-Ray Lines (E)—A. S. Ryl'nikov, A. I. Egorov, G. A. Ivanov, V. I. Marushenko, A. F. Mezentsev, A. I. Smirnov, O. I. Sumbaev and V. V. Fedorov. **36** (1), 27–32 (Jan. 1973); CPM-7305D0561

Suzdalev, I. P.—Mössbauer-spectroscopy investigation of the properties of thin oxide films (E)—I. P. Suzdalev and A. P. Amulyavichus. **36**(5), 929–32 (May 1973); CPM-7311E0671

Viridenko, Yu. P.—Fluctuation Characteristics of a Dense Plasma of High Current Discharges Produced by Electric Explosion of Metallic Wires (E/T)—F. A. Nikolaev, Yu. V. Novitskii, V. B. Rozanov and Yu. P. Sviridenko. **36**(3), 444–8 (Mar. 1973); CPM-7309D0444

Syunyaev, R. A.—Plasma Effects in Stimulated Compton Interaction between Matter and Radiation (T)—A. A. Galeev and R. A. Syunyaev. **36**(4), 669–76 (Apr. 1973); CPM-7310E0819

T

Tal'Roze, V. L.—Change in the Hyperfine State of the Hydrogen Atom During its Collisions with Unsaturated Hydrocarbon Molecules in the Gaseous State (E)—E. B. Gordon, A. P. Perminov, B. I. Ivanov, V. I. Matyushenko, A. N. Ponomarev and V. L. Tal'Roze. **36**(2), 212–5 (Feb. 1973); CPM-7307E0786

—Kinetics of a Pulsed Chemical Carbon Monoxide Laser with Photoinitiated Oxidation of Carbon Disulfide (E/T)—E. B. Gordon, V. S. Pavlenko, Yu. L. Moskvin, M. S. Drozdov, P. S. Vinogradov and V. L. Tal'Roze. **36**(4), 611–8 (Apr. 1973); CPM-7310E0761

Tarasenko, A. S.—Interference of synchrotron radiation photons from a single electron (E)—I. A. Grishaev, I. S. Guk, A. S. Mazmanishvili and A. S. Tarasenko. **36**(5), 870–1 (May 1973); CPM-7311E0612

Tarasenko, V. V.—Attenuation of the critical vibrations in displacive-type ferroelectrics containing dislocations (T)—V. V. Tarasenko and V. D. Kharitonov. **36**(6), 1189–92 (Jun. 1973); CPM-7312F0525

Tatarskii, V. I.—Number operator for photons traversing a spatial point (T)—V. I. Tatarskii. **36**(1), 1097–8 (Jun. 1973); CPM-7312F0433

Teitel'baum, G. B.—Doppler-Shifted Spin Resonance in the Electron Fluid of Metals (T)—G. B. Teitel'baum. **36**(1), 176–81 (Jan. 1973); CPM-7305D0710

Telegin, G. G.—Fluctuations of the Radiation Rise Time in a Gas Laser with Nonlinear Resonant Absorption (E/T)—V. P. Makhnev and G. G. Telegin. **36**(4), 638–42 (Apr. 1973); CPM-7310E0788

Teplinskii, V. M.—Quantum Landau Oscillations in MoO₂ and WO₂ (E)—E. P. Vol'skii and V. M. Teplinskii. **36**(3), 550–2 (Mar. 1973); CPM-7309D0550

Timerov, R. Kh.—Effect of a Metal–Dielectric Phase Transition on the Superconducting Transition Temperature (T)—Yu. V. Kopaev and R. Kh. Timerov. **36**(1), 153–62 (Jan. 1973); CPM-7305D0687

Timofeeva, V. A.—Transitions due to spin reorientation in a $H_{0.5}Dy_{0.5}FeO_3$ single crystal (E)—K. P. Belov, A. M. Kadomtseva, I. B. Krynetskii, T. L. Ovchinnikova, V. A. Timofeeva, L. M. Pomirchy and A. Ya. Chervonenkis. **36**(6), 1136–7 (Jun. 1973); CPM-7312F0472

Tolmachev, A. V.—Visualization of Radiation in the Millimeter and Submillimeter Range by Means of Liquid Crystals (E)—A. V. Tolmachev, E. Ya. Govorun and V. M. Kuz'michev. **36**(2), 309–10 (Feb. 1973); CPM-7307E0883

Tolok, V. T.—Combined Heating of a Plasma by an Electron Beam and an Intense Ion–Cyclotron Wave (E)—A. S. Bakai, A. I. Ermakov, S. S. Krivulya, N. I. Nazarov and V. T. Tolok. **36**(4), 651–3 (Apr. 1973); CPM-7310E0801

Tolstoluzhskii, A. P.—Interaction between a Modulated Relativistic Beam and a Plasma (E/T)—A. K. Berezin, Ya. B. Fainberg, L. I. Bolotin, A. M. Egorov, V. A. Kiselev, V. A. Buts, V. I. Kurliko and A. P. Tolstoluzhskii. **36**(3), 453–9 (Mar. 1973); CPM-7309D0453

Tonapetyan, S. G.—Photodisintegration of C¹² at γ -ray energies from 250 to 1200 MeV (E)—S. G. Tonapetyan, N. V. Goncharov, A. I. Derebchinskii, O. G. Konovalov and V. M. Khvorostyan. **36**(6), 1033–5 (Jun. 1973); CPM-7312F0369

Tret'yakov, Yu. D.—Influence of Doping with Copper on the Magnetic and Electrical Properties of the Chalcongenide Spinel CdCr₂S₄ (E)—K. P. Belov, I. V. Gordeev, L. I. Koroleva, A. V. Ped'ko, Yu. D. Tret'yakov, V. A. Alferov, E. M. Smirnovskaya and Yu. G. Saksonov. **36**(4), 697–8 (Apr. 1973); CPM-7310E0847

Trifonov, E. D.—Collective effects in spontaneous emission by two atoms (T)—D. F. Smirnov, I. V. Sokolov and E. D. Trifonov. **36** (6), 1111–4 (Jun. 1973); CPM-7312F0447

Tsemko, N. I.—Propagation Mechanism of an Ultrahigh-Frequency Discharge in Air (E)—V. M. Batenin, V. S. Zrodnikov, I. I. Klimovskii and N. I. Tsemko. **36**(3), 449–52 (Mar. 1973); CPM-7309D0449

Tsopp, L. É.—Space-Charge Limited Current of an Uncompensated Relativistic Electron Beam (E)—G. P. Mkheidze, V. I. Pulin, M. D. Raizer and L. É. Tsopp. **36**(1), 54–5 (Jan. 1973); CPM-7305D0588

Tsukernik, V. M.—Nonlinear Response of a Ferromagnet to the Switching on of a Constant Field (T)—V. M. Tsukernik and R. P. Yankelevich. **36**(2), 384–6 (Feb. 1973); CPM-7307E0958

Tsvetkov, Yu. D.—Effect of spin dipole–dipole interaction on phase relaxation in magnetically dilute solid bodies (T)—A. D. Milov, K. M. Salikhov and Yu. D. Tsvetkov. **36**(6), 1229–32 (Jun. 1973); CPM-7312F0565

Tsytovich, V. N.—Magnetic Pulsation Spectra in a Nonisothermal Plasma (T)—M. A. Livshitz and V. N. Tsytovich. **36**(2), 286–90 (Feb. 1973); CPM-7307E0860

Tulinov, A. F.—Scattering of Protons in a Thin Gold Single Crystal (E)—Yu. N. Zhukova, G. A. Iferov, A. F. Tulinov and V. Ya. Chumanov. **36**(1), 114–7 (Jan. 1973); CPM-7305D0648

Tumanov, O. A.—Luminescence of a molecular gas under the action of CO_2 laser pulses (E)—V. S. Letokhov, E. A. Ryabov and O. A. Tumanov. **36**(6), 1069–73 (Jun. 1973); CPM-7312F0405

U

Uimin, G. V.—Excitations in the one-dimensional Hubbard model (T)—G. V. Uimin and S. V. Fomichev. **36**(5), 1001–6 (May 1973); CPM-7311E0743

Urazakov, E. I.—Propagation of a Rayleigh wave along a rough surface (T)—E. I. Urazakov and L. A. Fal'kovskii. **36**(6), 1214–7 (Jun. 1973); CPM-7312F0550

V

Varfolomeev, A. A.—Bremsstrahlung Spectrum of Ultrarelativistic Electrons in a Dense Medium (T)—A. A. Varfolomeev, V. A. Bazylev and N. K. Zhevago. **36**(3), 430–5 (Mar. 1973); CPM-7309D0430

Vasil'ev, N. G.—Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. **36**(6), 1155–60 (Jun. 1973); CPM-7312F0491

Vasil'tsov, V. V.—Nuclear pumping in molecular gas lasers (T)—V. M. Andriyakin, V. V. Vasil'tsov, S. S. Krasil'nikov and V. D. Pis'mennyi. **36**(5), 865–9 (May 1973); CPM-7311E0607

Vedeneev, S. I.—Investigation of Tunnel Characteristics of Sputtered Superconducting Nb_3Sn Films (E)—S. I. Vedeneev, A. I. Golovashkin, I. S. Levchenko and G. P. Motulevich. **36**(3), 531–5 (Mar. 1973); CPM-7309D0531

Vereshchagin, V. G.—Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. **36**(6), 1155–60 (Jun. 1973); CPM-7312F0491

Vilenkin, A. V.—Resonance Width on Magnetic Surface Levels (T)—A. V. Vilenkin, É. A. Kaner and I. M. Fuks. **36**(1), 166–72 (Jan. 1973); CPM-7305D0700

Vinogradov, A. V.—Statistical Theory of the Polarizability of Atoms and Ions (T/E)—A. V. Vinogradov, V. V. Pustovalov and V. P. Shevel'ko. **36**(2), 252–4 (Feb. 1973); CPM-7307E0826

—Second-Harmonic Generation in an Inhomogeneous Laser Plasma (T)—A. V. Vinogradov and V. V. Pustovalov. **36**(3), 492–7 (Mar. 1973); CPM-7309D0492

—The problem of laser radiation sources in the far ultraviolet and x-ray regions (T)—A. V. Vinogradov and I. I. Sobel'man. **36**(6), 1115–9 (Jun. 1973); CPM-7312F0451

Vinogradov, P. S.—Kinetics of a Pulsed Chemical Carbon Monoxide Laser with Photoinitiated Oxidation of Carbon Disulfide (E/T)—E. B. Gordon, V. S. Pavlenko, Yu. L. Moskvin, M. S. Drozdov, P. S. Vinogradov and V. L. Tal'roze. **36**(4), 611–8 (Apr. 1973); CPM-7310E0761

Vinokurov, E. A.—Production of Triplets by Polarized Photons (T)—E. A. Vinokurov and É. A. Kuraev. **36**(4), 602–6 (Apr. 1973); CPM-7310E0752

Vladimirov, V. V.—Kadomtsev–Nedospasov Helical Instability in a Strong Pinch Effect in an Electron–Hole Plasma (T)—V. V. Vladimirov and A. I. Shchedrin. **36**(4), 799–802 (Apr. 1973); CPM-7310E0949

Vodyanov, N. G.—Theory of the Shadow Effect (T)—G. M. Filippov, N. G. Vodyanov and V. I. Korneev. **36**(3), 404–6 (Mar. 1973); CPM-7309D0404

Volkov, V. N.—Kinetics of the Generation Spectrum of a Photodissociation Iodine Laser (T/E)—V. A. Alekseev, T. L. Andreeva, V. N. Volkov and E. A. Yukov. **36**(2), 238–42 (Feb. 1973); CPM-7307E0812

Volkovitskii, P. E.—Shadow corrections to pion–deuteron and proton–deuteron collisions (T)—V. V. Anisovich, P. E. Volkovitskii and L. G. Dakhno. **36**(5), 835–9 (May 1973); CPM-7311E0577

Volovik, V. D.—Acoustic Wave Excitation in Metals by Fast Charged Particles and Gamma Quanta (E)—I. A. Borshkovskii, V. D. Volovik, I. A. Grishaev, I. I. Zalyubovskii, V. V. Petrenko, G. A. Chekhutskii and G. L. Fursov. **36**(4), 706–8 (Apr. 1973); CPM-7310E0856

Vol'skii, E. P.—Quantum Landau Oscillations in MoO_2 and WO_2 (E)—E. P. Vol'skii and V. M. Teplinskii. **36**(3), 550–2 (Mar. 1973); CPM-7309D0550

Voronel', A. V.—Thermodynamic Quantities for Pure Liquids and the Applicability of the Asymptotic Laws near the Critical Point (E/T)—A. V. Voronel', V. G. Gorbunova, V. A. Smirnov, N. G. Shmakov and V. V. Shchekochikhina. **36**(3), 505–13 (Mar. 1973); CPM-7309D0505

Voron'ko, Yu. K.—Investigation of the Elementary Cross–Relaxation Act of the Nd^{3+} Ion Excited State in Crystals (T)—Yu. K. Voron'ko, V. V. Osiko and I. A. Shcherbakov. **36**(2), 365–7 (Feb. 1973); CPM-7307E0939

Voronkov, V. D.—Antiferromagnetic Resonance in MnO (E)—V. S. Mandel', V. D. Voronkov and D. E. Gromzin. **36**(3), 521–5 (Mar. 1973); CPM-7309D0521

Vukstich, V. S.—Experimental investigation of the excitation of Ar II and Kr II in electron–ion collisions (E)—I. P. Zapesochnyi, A. I. Imre, A. I. Dashchenko, V. S. Vukstich, F. F. Danch and V. A. Kel'man. **36**(6), 1056–60 (Jun. 1973); CPM-7312F0392

Vvedenskii, V. L.—Vapor Pressure of $\text{Hd}^3\text{–He}^4$ Mixtures in the 0.7–1.3° K Temperature Range (E/T)—V. L. Vvedenskii and V. P. Peshkov. **36**(4), 721–4 (Apr. 1973); CPM-7310E0871

Y

Yakovenko, V. L.—Nature of Magnetic Anisotropy of Dysprosium. Paramagnetic Susceptibility of Dysprosium–Gadolinium Alloys (E)—R. Z. Levitin, T. M. Perekalina, L. P. Shlyakhina, O. D. Chistyakov and V. L. Yakovenko. **36**(4), 742–6 (Apr. 1973); CPM-7310E0892

Yakubovskii, A. Yu.—Hard excitation of magnons in parallel pumping in an antiferromagnetic substance (E)—V. I. Ozhogin and A. Yu. Yakubovskii. **36**(6), 1138–9 (Jun. 1973); CPM-7312F0474

Yang, C.—Lateral Spots of X-Ray Transition Radiation in Crystals and their Effect on the Central Spot (T)—G. M. Garibyan and C. Yang. **36**(4), 631–7 (Apr. 1973); CPM-7310E0781

Yankelevich, R. P.—Nonlinear Response of a Ferromagnet to the Switching on of a Constant Field (T)—V. M. Tsukernik and R. P. Yankelevich. **36**(2), 384–6 (Feb. 1973); CPM-7307E0958

Yanson, I. K.—The Nonlinearity Mechanism of the Volt–Ampere Characteristics of Point Junctions (T/E)—N. I. Bogatina and I. K. Yanson. **36**(4), 692–6 (Apr. 1973); CPM-7310E0842

Yatsuk, L. A.—Electric and structural properties of low temperature bismuth films (E)—Yu. F. Komik, B. I. Belevtsev and L. A. Yatsuk. **36**(6), 1177–83 (Jun. 1973); CPM-7312F0513

Yudin, V. A.—Doppler Shifted Cyclotron Resonance in Cadmium (E/T)—O. V. Konstantinov, V. G. Skobov, V. V. Lavrova, L. M. Fisher and V. A. Yudin. **36**(1), 118–26 (Jan. 1973); CPM-7305D0652

Yukov, E. A.—Kinetics of the Generation Spectrum of a Photodissociation Iodine Laser (T/E)—V. A. Alekseev, T. L. Andreeva, V. N. Volkov and E. A. Yukov. **36**(2), 238–42 (Feb. 1973); CPM-7307E0812

Yurchikov, E. E.—The Mössbauer Effect in Face–Centered Cubic Lattices of Iron–Nickel Alloys (E/T)—A. Z. Menshikov and E. E. Yurchikov. **36**(1), 100–4 (Jan. 1973); CPM-7305D0634

Yurkin, G. V.—Stimulated Emission Evoked by Pumping with a Pulsed Electron Beam Produced in a Linear Discharge (E)—V. G. Averin, A. I. Karchevskii and G. V. Yurkin. **36**(1), 44–7 (Jan. 1973); CPM-7305D0578

Z

Zaitsev, R. O.—Linear Nonuniform Spin Chain in a Transverse Magnetic Field (T)—R. O. Zaitsev. **36**(4), 789–92 (Apr. 1973); CPM-7310E0939

Zalyubovskii, I. I.—Acoustic Wave Excitation in Metals by Fast Charged Particles and Gamma Quanta (E)—I. A. Borshkovskii, V. D. Volovik, I. A. Grishaev, I. I. Zalyubovskii, V. V. Petrenko, G. A. Chekhutskii and G. L. Fursov. **36**(4), 706–8 (Apr. 1973); CPM-7310E0856

Zapesochnyi, I. P.—Experimental investigation of the excitation of Ar II and Kr II in electron–ion collisions (E)—I. P. Zapesochnyi, A. I. Imre, A. I. Dashchenko, V. S. Vukstich, F. F. Danch and V. A. Kel'man. **36**(6), 1056–60 (Jun. 1973); CPM-7312F0392

Zautkin, V. V.—Resonance Phenomena in a Parametric Spin Wave System (E/T)—V. V. Zautkin, V. S. L'vov and S. S. Starobinets. **36**(1), 96–9 (Jan. 1973); CPM-7305D0630

Zel'dovich, B. Ya.—The Polarization Properties of Light Spontaneously Scattered in a Liquid (Phenomenological Analysis)
(T)—B. Ya. Zel'dovich. **36**(1), 39–43 (Jan. 1973);
CPM-7305D0573

—Spectral Width of Light Spontaneously Scattered in a Perfect Gas
(T)—B. Ya. Zel'Dovich and I. I. Sobel'man. **36**(2), 235–7 (Feb. 1973); CPM-7307E0809

Zherebchevskii, D. E.—The Spectrum and Excitation of Electromagnetic Waves in Bismuth in the Region of Hole Cyclotron Resonances (E/T)—V. P. Naberezhnikh, D. E. Zherebchevskii and V. L. Mel'nik. **36**(1), 89–95 (Jan. 1973); CPM-7305D0623

—Cyclotron resonance in specular reflection of electrons from the surface of a metal (T)—D. E. Zherebchevskii and É. A. Kaner. **36**(5), 983–9 (May 1973); CPM-7311E0725

Zhevago, N. K.—Bremsstrahlung Spectrum of Ultrarelativistic Electrons in a Dense Medium (T)—A. A. Varfolomeev, V. A. Bazylev and N. K. Zhevago. **36**(3), 430–5 (Mar. 1973); CPM-7309D0430

Zhukova, Yu. N.—Scattering of Protons in a Thin Gold Single Crystal (E)—Yu. N. Zhukova, G. A. Iferov, A. F. Tulinov and V. Ya. Chumanov. **36**(1), 114–7 (Jan. 1973); CPM-7305D0648

Zil'berman, P. E.—Nonlinear acoustoelectric effect and amplification of ultrasound in indium antimonide (E/T)—P. E. Zil'berman, S. N. Ivanov, I. M. Kotelyanskii, G. D. Mansfel'd and E. N. Khazanov. **36**(5), 921–4 (May 1973); CPM-7311E0663

Zinov'ev, V. E.—Matthiessen rule and high-temperature electrical resistivity of solid solutions of silicon in iron (E/T)—V. E. Zinov'ev, Sh. Sh. Abel'skii, M. I. Sandakova, L. N. Petrova and P. V. Gel'd. **36**(6), 1174–6 (Jun. 1973); CPM-7312F0510

Zorin, R. V.—Low-frequency magnetoelectric resonances in BaMnF₄ (E)—B. I. Al'shin, D. N. Astrov and R. V. Zorin. **36**(6), 1161–4 (Jun. 1973); CPM-7312F0497

Zrodnikov, V. S.—Propagation Mechanism of an Ultrahigh-Frequency Discharge in Air (E)—V. M. Batenin, V. S. Zrodnikov, I. I. Klimovskii and N. I. Tsemko. **36**(3), 449–52 (Mar. 1973); CPM-7309D0449

Zuev, M. T.—Critical currents and magnetization of superconducting alloys (E/T)—Yu. F. Bychkov, N. G. Vasil'ev, V. G. Vereshchagin, V. G. Ershov, M. T. Zuev, V. P. Karasik, G. B. Kurganov, D. V. Pronkin and A. I. Rusinov. **36**(6), 1155–60 (Jun. 1973); CPM-7312F0491

Zviadadze, M. D.—Strong saturation of inhomogeneously broadened lines (T)—L. L. Buishvili, M. D. Zviadadze and G. R. Khutishvili. **36**(5), 933–8 (May 1973); CPM-7311E0675

Zvyagin, A. I.—Effect of short-range magnetic order on the temperature dependence of the copper tungstate EPR line width (E)—A. G. Anders and A. I. Zvyagin. **36**(6), 1151–4 (Jun. 1973); CPM-7312F0487

CURRENT PHYSICS REPRINTS

a service of the American Institute of Physics

Placing an order with Current Physics Reprints is your way to obtain a copy of the complete article published or to be published in the following journals:

American Journal of Physics
Applied Optics
Applied Physics Letters
The Astronomical Journal
The Journal of the Acoustical Society of America
Journal of Applied Physics
The Journal of Chemical Physics
Journal of Mathematical Physics
Journal of the Optical Society of America
*Journal of Physical and Chemical Reference Data
The Journal of Vacuum Science and Technology
Medical Physics
Physical Review-A, B, C, D
Physical Review Letters
The Physics of Fluids
The Physics Teacher
Physics Today
*Reviews of Modern Physics
The Review of Scientific Instruments
Optics and Spectroscopy
Soviet Astronomy
Soviet Journal of Nuclear Physics
Soviet Journal of Optical Technology
Soviet Journal of Particles and Nuclei
Soviet Journal of Quantum Electronics
Soviet Physics-Acoustics
Soviet Physics-Crystallography

Soviet Physics-Doklady
Soviet Physics-JETP
JETP Letters
Soviet Physics-Semiconductors
Soviet Physics-Solid State
Soviet Physics-Technical Physics
Soviet Physics-Uspokhi
Chinese Physics (Acta Physica Sinica)
AIP Conference Proceedings

*Please write for the prices of reprints of specific articles in *Journal of Physical and Chemical Reference Data* and the 1974 and later issues of *Reviews of Modern Physics*.

Orders are filled the same day they are received or the day of publication of the journal issue, whichever is later. Air mail delivery is available.

Price: 25¢ per article page (minimum order is \$1.00) + postage.

If the article has already been published and its length is known, prepay by check or money order and save the cost of postage.

Note: Bulk reprint orders (minimum of 100 copies and additional lots of 50) should be sent to American Institute of Physics, Reprint Department.

Send me _____ copies of the following article:

(Please duplicate this form when ordering additional articles)

Title _____

Authors' Names _____

from the journal:

Journal Title _____

Volume _____ Issue No. (or month) _____

Year _____ Page No. _____

Send orders to:



American Institute of Physics
Current Physics Reprints
335 East 45th Street
New York, N.Y. 10017

Name _____

Address _____

City _____

State _____ ZIP _____

Country _____

Check or money order enclosed (25¢ per article page—minimum order is \$1.00). Payable to American Institute of Physics

Bill me (25¢ per article page—minimum order is \$1.00 + postage)

A NEW PUBLICATION
from the
American Institute
of Physics



CURRENT PHYSICS INDEX

Quarterly Subject-and-Author Index to the AIP and Member Societies' Primary Research Journals and the AIP Conference Proceedings

- Abstract of Each Article
- Over 500 Pages and 4,300 Abstracts per Issue

Annual Cumulative Subject-and-Author Index

- Over 1,500 Pages

Publications included in CURRENT PHYSICS INDEX

American Institute of Physics
Conference Proceedings
American Journal of Physics
Applied Optics
Applied Physics Letters
The Astronomical Journal
The Journal of the Acoustical Society of America
Journal of Applied Physics
The Journal of Chemical Physics
Journal of Mathematical Physics
Journal of the Optical Society of America
Journal of Physical and Chemical Reference Data
The Journal of Vacuum Science and Technology
Medical Physics
Physical Review-A
Physical Review-B
Physical Review-C
Physical Review-D
Physical Review Letters
The Physics of Fluids
Reviews of Modern Physics
The Review of Scientific Instruments
Optics and Spectroscopy
Soviet Astronomy
Soviet Journal of Nuclear Physics
Soviet Journal of Optical Technology
Soviet Journal of Particles and Nuclei
Soviet Journal of Quantum Electronics
Soviet Physics-Acoustics

Soviet Physics-Crystallography
Soviet Physics-Doklady
Soviet Physics-JETP
JETP Letters
Soviet Physics-Semiconductors
Soviet Physics-Solid State
Soviet Physics-Technical Physics
Soviet Physics-Uspekhi

SUBSCRIPTION RATE: 1974 CURRENT PHYSICS INDEX

Regular Rate

Domestic * \$95

AIP Member Society & Affiliated Society Member Rate (for member's personal use only) \$30

Annual Cumulative Section Only \$50

* Includes U.S., Possessions, Canada, Mexico

A copy of the complete article of any listed in *Current Physics Index* can be obtained from Current Physics Reprints, American Institute of Physics. Request prices.

Send Index Orders to:



Marketing Services
American Institute of Physics
335 East 45th Street
New York, New York 10017

CURRENT PHYSICS ADVANCE ABSTRACTS IS TIMELY...

Subscribers to **Current Physics Advance Abstracts** (CPAA) receive abstracts of articles appearing in the world's leading physics journals an average of two to four months in advance of their publication in the primary journals. A subscription to CPAA can fulfill your need for timely and compact information on the current physics literature.

Current Physics Advance Abstracts works because the authors of the articles in the primary journals realize the amount of increased interest that is produced when the abstracts appear in CPAA in advance of publication. Therefore, the authors are willing to spend the time to index their articles and to have the abstracts retyped in the required format. The abstract is published in CPAA when the article is accepted for publication by the editor of the primary journal.

Current Physics Advance Abstracts is continually adjusting to the changing and evolving needs of the users. Initially, CPAA covered only AIP-published journals, but its coverage has now expanded to include non-AIP-published journals and is continuing to expand as editors and publishers of journals see the value of being included in CPAA.

- Over 1500 articles are previewed monthly. Each issue of CPAA contains:
- Titles of articles. Authors' names. Address of the first listed author. Date the article was received.
- Abstracts indexed so that they appear under at least two different subject headings. Publication dates of the journals in which the full text of the article will appear.
- Complete reprints of the latest Tables of Contents of journals covered by CPAA.

Current Physics Advance Abstracts is published monthly in the form of three separate journals covering these fields:

Atoms and Waves

General Interest. Applied Mathematics. Quantum Mechanics. Statistical Physics. Atomic Physics. Molecular Physics. Physical Chemistry. Physics of Fluids and Plasmas. Vacuum Physics. Cryogenics. Acoustics. Optics. Geophysics. Biophysics.

Nuclei and Particles

General Interest. Applied Mathematics. Quantum Mechanics. Relativity. Statistical Physics. High-Energy Physics. Nuclear Physics. Plasma Physics. Astronomy. Astrophysics. Cosmic Rays.

Solid State (also including liquids)

General Interest. Applied Mathematics. Quantum Mechanics. Statistical Physics. Crystallography. Lattice Dynamics. Transport Phenomena. Super-Conductivity. Magnetic Materials. Magnetic Resonance. Optical Phenomena. Interaction of Radiation and Solids. Physics of Surfaces.

CPAA covers these Journals and translations

Acta Crystallographica A and B
AIP Conference Proceedings
American Journal of Physics
Annals of Physics (New York)
Applied Optics, incl. Supplement
Applied Physics Letters
Applied Spectroscopy
Astronomy and Astrophysics
Astronomical Journal
Czechoslovak Journal of Physics, Section B
Fizika (Yugoslavia)
Helvetica Physica Acta
Institute of Physics Conference Series
Japanese Journal of Applied Physics
JETP Letters
Journal of the Acoustical Society of America
Journal of Applied Physics
Journal of Chemical Physics
Journal of Mathematical Physics
Journal of the Optical Society of America
Journal of the Physical Society of Japan
Journal of Physics A-F
Journal of Physics (Paris)
Journal of Physical and Chemical Reference Data
Journal of Physics and Chemistry of Solids
Journal of Vacuum Science and Technology
Memoirs of the Royal Astronomical Society
Molecular Physics

Monthly Notices of the Royal Astronomical Society
Optics and Spectroscopy
Philosophy Magazine
Physical Review A-D
Physical Review Letters
Physics Education
Physics in Medicine and Biology
Physics of Fluids, incl. Supplement
Proceedings of the Royal Society, Series A
Progress of Theoretical Physics
Reports on Progress in Physics
The Review of Scientific Instruments
Review of Modern Physics, incl. Supplement
Soviet Astronomy
Soviet Journal of Nuclear Physics
Soviet Journal of Optical Technology
Soviet Journal of Particles and Nuclei
Soviet Journal of Quantum Electronics
Soviet Physics—Acoustics
Soviet Physics—Crystallography
Soviet Physics—Doklady
Soviet Physics—JETP
Soviet Physics—Semiconductors
Soviet Physics—Solid State
Soviet Physics—Technical Physics
Soviet Physics—Uspekhi
Zeitschrift für Naturforschung
Zeitschrift für Physik

Each of the subject areas is broken down into detailed specialties using a classification scheme developed for physics by the American Institute of Physics.

Current Physics Advance Abstracts is published monthly by the American Institute of Physics. To order, write to:



Current Physics Advance Abstracts
American Institute of Physics
335 East 45th Street
New York, N.Y. 10017